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Water Resources Data for Colorado Water Year 1979. Volume 1. Missouri River Basin, Arkansas River Basin, and Rio Grande Basin

(U.S.) Geological Survey
Lakewood, CO

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U.S. Department of Commerce
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Department of the Interior
March 3, 1849

State of Colorado
1876

Water Resources Data for Colorado

Volume 1. Missouri River Basin, Arkansas River Basin, and Rio Grande Basin

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT CO-79-1

WATER YEAR 1979

Prepared in cooperation with the State of Colorado
and with other agencies

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CALENDAR FOR WATER YEAR 1979

1978

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U.S. DEPARTMENT OF THE INTERIOR
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Prepared in cooperation with the State of Colorado
and with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

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GEOLOGICAL SURVEY

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15. Supplementary Notes

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Water-resources data for Colorado for the 1979 water year consists of records of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes and reservoirs, and water levels and water quality of wells and springs. This report (Volumes 1, 2, and 3) contains discharge records for about 460 gaging stations, stage and contents of 22 lakes and reservoirs, 4 partial-record low-flow stations, 93 crest-stage partial-record stations, and 200 miscellaneous sites; water quality for 143 gaging stations and 130 miscellaneous sites; and water levels for 55 observation wells. A few pertinent stations in bordering States are also included in this report. The records were collected and computed by the Water Resources Division of the U.S. Geological Survey under the direction of J. F. Blakey, district chief. These data represent that portion of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in Colorado.

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PREFACE

This report was prepared by the U.S. Geological Survey in cooperation with the State of Colorado and other agencies by personnel of the Colorado District of the Water Resources Division under the supervision of J. F. Blakey, District Chief, and Alfred Clebsch, Jr., Regional Hydrologist, Central Region.

This report is one of a series issued State by State under the direction of Philip Cohen, Chief Hydrologist, and the Assistant Chief Hydrologist for Scientific Publications and Data Management.

Data for Colorado are in three volumes as follows:

Volume 1. Missouri River, Arkansas River, and Rio Grande basins in Colorado,
Volume 2. Colorado River basin in Colorado, above the Dolores River, and
Volume 3. Dolores River, Green River, and San Juan River basins in Colorado.

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Partial tables: (c) chemical, (b) biological, (m) microbiological, (s) sediment, (t) temperature]

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WATER RESOURCES DATA FOR COLORADO, 1979

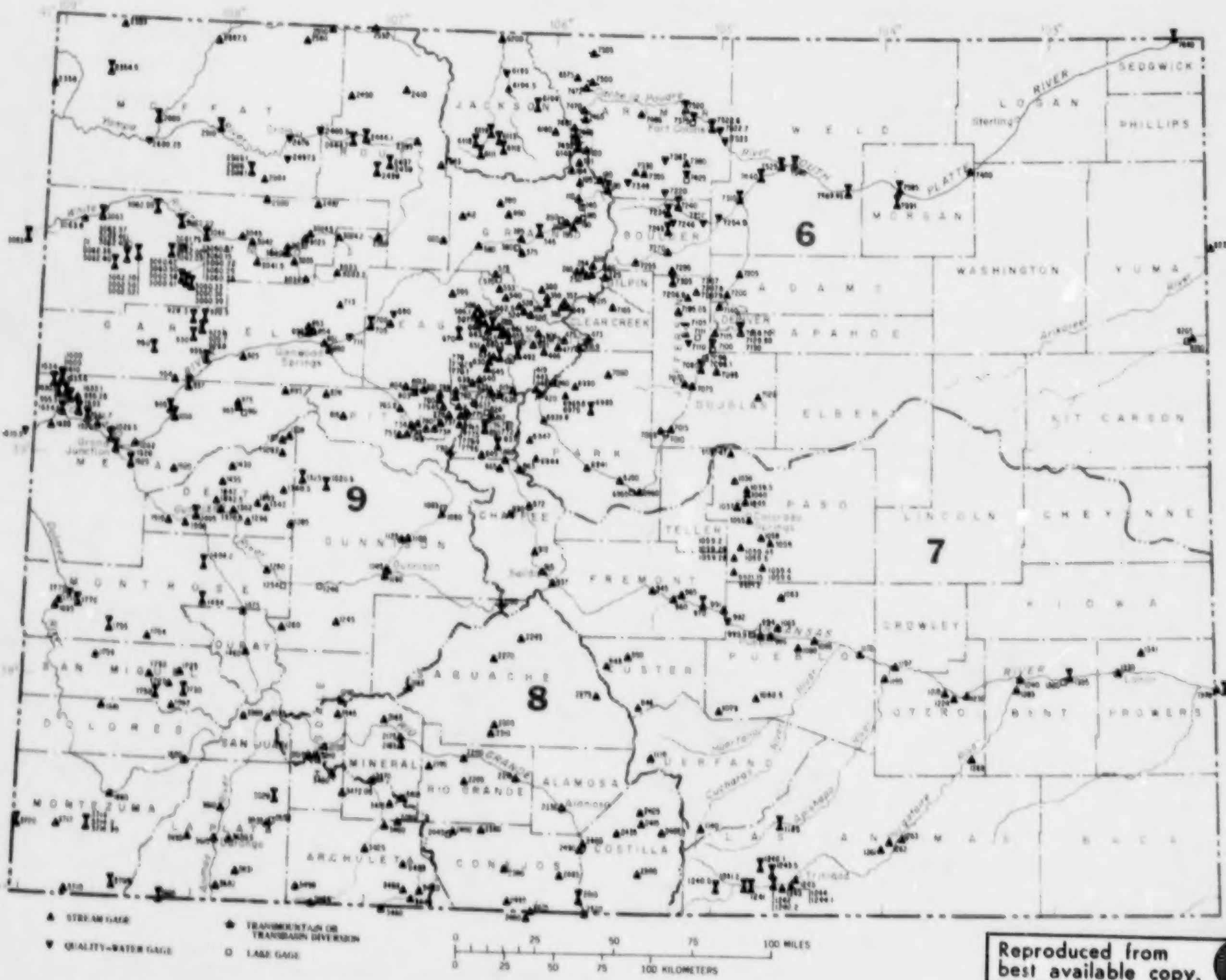
VOLUME 1: MISSOURI RIVER, ARKANSAS RIVER, AND RIO GRANDE BASINS
VOLUME 2: COLORADO RIVER BASIN ABOVE THE DOLORES RIVER
VOLUME 3: DOLORES, GREEN, AND SAN JUAN BASINS

INTRODUCTION

Water-resources data for the 1979 water year for Colorado consists of records of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes and reservoirs; and water levels and water quality of wells and springs. This report (Volumes 1, 2, and 3) contains discharge records for about 460 streamflow-gaging stations, stage and contents of 22 lakes and reservoirs, 4 partial-record low-flow stations, 93 crest-stage partial-record stations, and 200 miscellaneous sites; water quality for 143 streamflow-gaging stations and 130 miscellaneous sites; and water levels for 55 observation wells. Locations of lake- and streamflow-gaging stations and water-quality stations are shown in figure 1, locations of crest-stage partial-record stations are shown in figure 2, and locations of observation wells are shown in figure 3. A few pertinent stations in bordering States also are included in this report. The records were collected and computed by the Colorado District. These data represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in Colorado.

Records of discharge and stage of streams, and contents and stage of lakes and reservoirs are published in a series of U.S. Geological Survey Water-Supply Papers entitled, "Surface-water Supply of the United States." Through September 30, 1960, these water-supply papers were in an annual series and then in a 5-year series for 1961-65 and 1966-70. Records of chemical quality, water temperatures, and suspended sediment were published from 1941 to 1970 in an annual series of water-supply paperd entitled "Quality of Surface Waters of the United States." Records of ground-water levels were published from 1935 to 1955 in an annual series of water-supply papers entitled "Water Levels and Artesian Pressures in Wells in the United States," and from 1955 to the present time, in a 5-year series of water-supply papers entitled "Ground-Water Levels in the United States." Water-supply papers may be purchased from Branch of Distribution, U.S. Geological Survey, 1200 Eads Street, Arlington, VA 22202.

Beginning with the 1961 water year, streamflow records and related data have been released by the Geological Survey in annual reports on a State-boundary basis. Beginning with the 1964 water year, water-quality records for surface and ground water have been similarly released in separate annual reports. These reports provided for rapid release of preliminary data shortly after the end of the water year. The final data were then released in the series of water-supply papers mentioned above. Beginning with the 1975 water year, water data will be released on a State-boundary basis in final form and will not be republished in the water-supply paper series. The 1975 and subsequent water year reports will be in a series which will carry an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this report is identified as "U.S. Geological Survey Water-Data Report CO-78-2." These reports are for sale by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161. For more information on available publications, see the section entitled, "PUBLICATIONS" on subsequent pages.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Grand Junction
Gunnison
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Alamosa
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Durango
ARKANSAS RIVER
RIO GRANDE
STREAM GAGE
QUALITY-WATER GAGE
TRANSMOUNTAIN OR TRANSBASIN DIVERSION
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Figure 1.—Map showing locations of lake- and stream-gaging stations and water-quality stations in Colorado.

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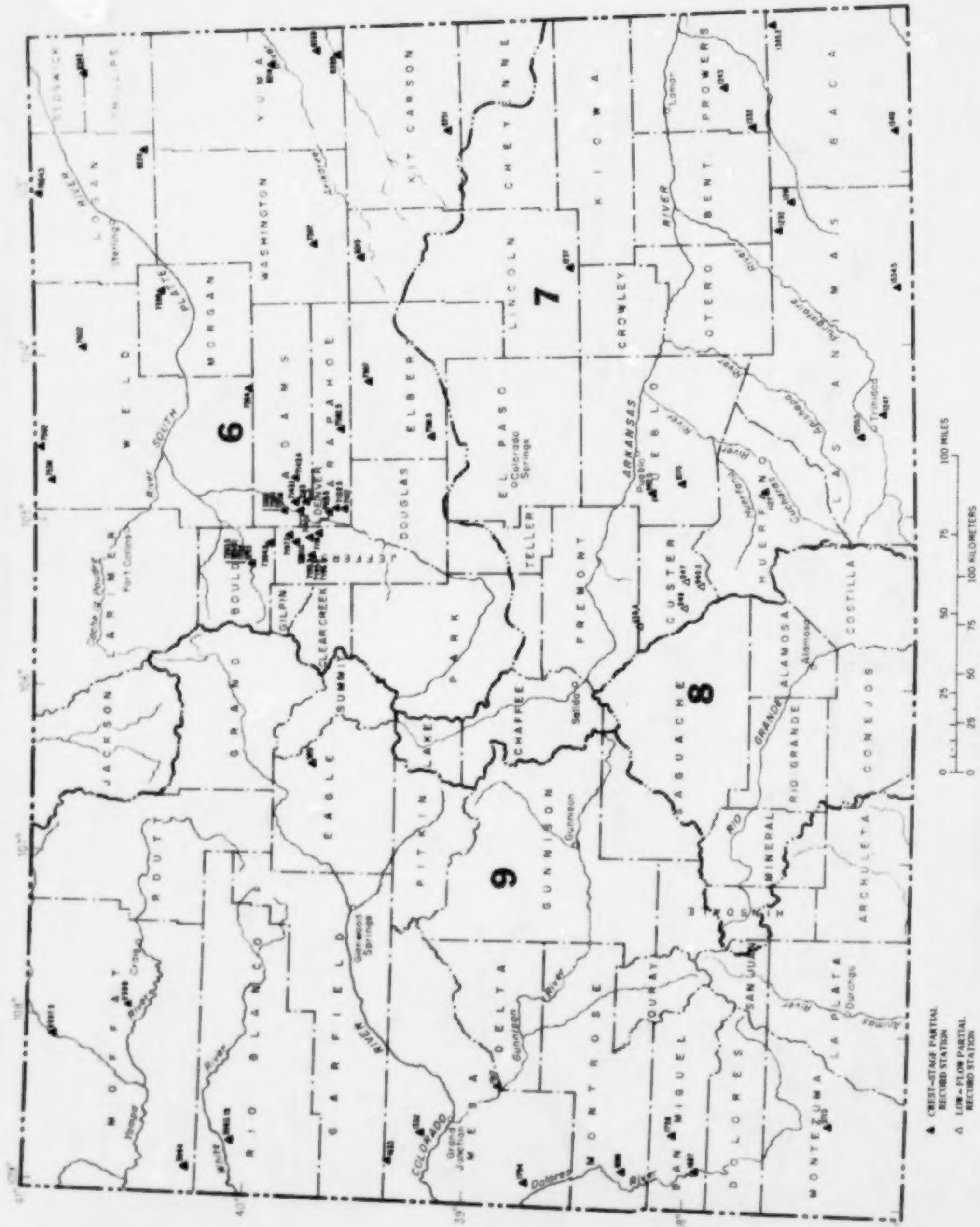
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PITKIN
LAKE
PARK
DOUGLAS
ELBERT
KIT CARSON
CHEYENNE
LINCOLN
EL PASO
TELLER
FREMONT
CHAFFEE
GUNNISON
DELTA
MONTROSE
OURAY
SAN MIGUEL
DOLORES
SAN JUAN
HINSDALE
MINERAL
SAGUACHE
CUSTER
PUEBLO
CROWLEY
KIOWA
OTERO
BENT
PROWERS
BACA
LAS ANIMAS
HUERFANO
ALAMOSA
RIO GRANDE
COSTILLA
CONEJOS
ARCHULETA
LA PLATA
MONTEZUMA
Fort Collins
Sterling
Grand Junction
Glenwood Springs
Gunnison
Salida
Colorado Springs
Pueblo
Lamar
Trinidad
Durango
Alamosa
SOUTH PLATTE River
ARKANSAS River
COLORADO RIVER
RIO GRANDE
Gunnison River
Dolores River
White River
Yampa River
0 25 50 75 100 MILES
0 25 50 75 100 KILOMETERS
▲ CREST-STAGE PARTIAL RECORD STATION
△ LOW-FLOW PARTIAL RECORD STATION

Figure 2.--Map showing locations of crest-stage partial-record stations in Colorado.

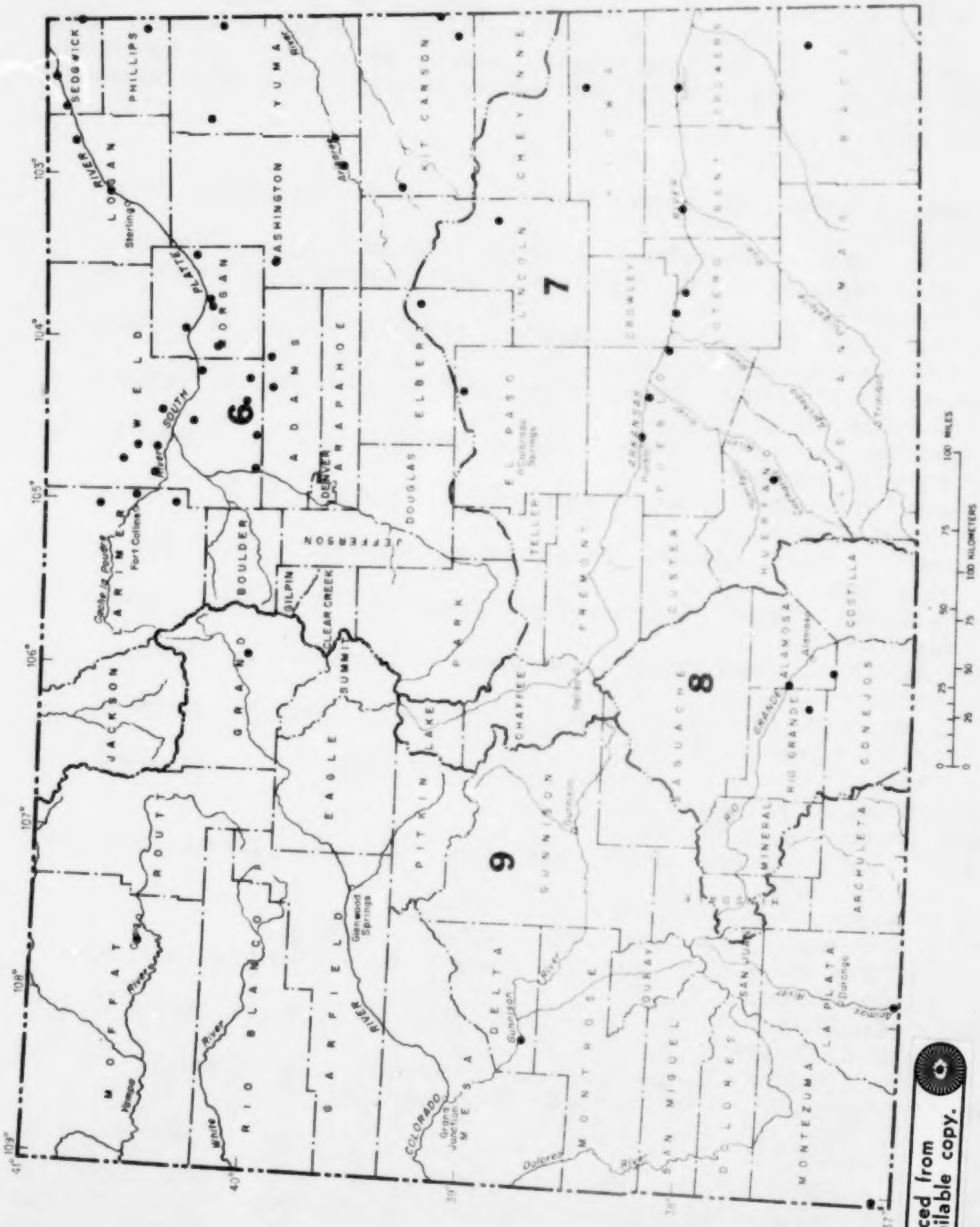
SEDGWICK
PHILLIPS
LOGAN
Sterling
YUMA
WASHINGTON
MORGAN
WELD
SOUTH PLATTE RIVER
LARIMER
Fort Collins
Cache la Poudre
JACKSON
GRAND
BOULDER
ADAMS
ARAPAHOE
DENVER
JEFFERSON
GILPIN
CLEAR CREEK
SUMMIT
DOUGLAS
ELBERT
KIT CARSON
CHEYENNE
LINCOLN
EL PASO
Colorado Springs
TELLER
PARK
LAKE
EAGLE
ROUTT
MOFFAT
RIO BLANCO
White River
GARFIELD
Glenwood Springs
PITKIN
CHAFFEE
FREMONT
CUSTER
PUEBLO
Pueblo
CROWLEY
KIOWA
OTERO
BENT
PROWERS
Arkansas River
HUERFANO
LAS ANIMAS
BACA
SAGUACHE
ALAMOSA
Alamosa
COSTILLA
RIO GRANDE
CONEJOS
MINERAL
HINSDALE
ARCHULETA
LA PLATA
Durango
MONTEZUMA
DOLORES
SAN MIGUEL
SAN JUAN
OURAY
MONTROSE
DELTA
Gunnison River
GUNNISON
MESA
Grand Junction
COLORADO RIVER
Dolores River
6
7
8
9
41°
40°
39°
38°
37°
109°
108°
107°
106°
105°
104°
103°
0 25 50 75 100 MILES
0 25 50 75 100 KILOMETERS

Figure 3.—Map showing locations of observation wells in Colorado.

Reproduced from best available copy.

COOPERATION

The U.S. Geological Survey and organizations of the State of Colorado have had cooperative agreements for the systematic collection of surface-water records since 1895, and for water-quality records since 1941. Organizations that assisted in collecting data for this report through cooperative agreement with the Survey are:

Colorado Division of Water Resources, J. A. Danielson, State Engineer.
Colorado Water Conservation Board, J. W. McDonald, Director.
Colorado Department of Highways, Jack Kinstlinger, Executive Director.
Arkansas River Compact Administration, Frank G. Cooley, Chairman and Federal Representative.
Colorado River Water Conservation District, Roland C. Fischer, Secretary-Engineer.
Metropolitan Denver Sewage Disposal District No. 1, William E. Korbitz, Manager.
Northern Colorado Water Conservation District, E. F. Phipps, Secretary-Manager.
Purgatoire River Water Conservancy District, Clyde Dawn, President.
Southwestern Water Conservation District, Robert H. Tyner, Manager.
Southeastern Colorado Water Conservancy District, C. L. Thomson, General Manager.
St. Vrain and Left Hand Water Conservancy District, James A. Cinea, Executive Director.
City and County of Denver, Board of Water Commissioners, Charles F. Brannan, President.
Eagle County Commissioners, Dale F. Grant, Chairman.
Pitkin County Board of County Commissioners, George Ochs, County Manager.
City of Aspen, Phillip Mahoney, City Manager.
City of Aurora, C. A. Wemlinger, Director of Utilities.
Colorado City Water and Sanitation District, W. T. Hambric, District Administrator.
City of Colorado Springs, Department of Public Utilities, James D. Phillips, Director.
City of Fort Collins, Roger E. Krempel, Director of Utilities.
City of Glenwood Springs, John D. West, Manager.

Financial assistance was also provided by the U.S. Army, Corps of Engineers, U.S. Army; Bureau of Indian Affairs, Bureau of Land Management, Bureau of Mines, Water and Power Resources Service, and the National Park Service, U.S. Department of the Interior; and the U.S. Environmental Protection Agency. Organizations that supplied data are acknowledged in station descriptions.

Some records have been collected and computed by contractors in accordance with U.S. Geological Survey specifications and under Geological Survey quality control.

HYDROLOGIC CONDITIONS

Water year 1979 was a year of above average runoff due to the heavy snow pack. The winter snowpack ranged from near 80 percent of normal in the Arkansas River basin to 220 percent of normal in Rio Grande basin. Streamflow varied from about 75 percent of normal in the southeast to about 260 percent of normal in the northeast part of the State.

Ground-water levels continued to decline in the northern High Plains, but remained constant in the alluvial river-channel aquifers.

DEFINITION OF TERMS

Terms related to streamflow, water quality, and other hydrologic data, as used in this report, are defined below. See also the table for converting inch-pound units to International System of units (SI) on the inside of the back cover.

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.

Algae are mostly aquatic single-celled, colonial, or multi-celled plants, containing chlorophyll and lacking roots, stems, and leaves.

Aquifer is a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

Bacteria are microscopic unicellular organisms, typically spherical, rod like, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria which ferment lactose with gas formation within 48 hours at 35°C. In the laboratory these bacteria are defined as all the organisms which produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35°C ± 1.0°C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal coliform bacteria are bacteria that are present in the intestines or feces of warm-blooded animals. They are often used as indicators of the sanitary quality of the water. In the laboratory they are defined as all organisms which produce blue colonies within 24 hours when incubated at 44.5°C ± 0.2C° on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria are bacteria found also in the intestines of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours at 35°C ± 1.0°C on M-enterrococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Bed material is the unconsolidated material of which the bottom of a streambed, lake, pond, reservoir, or estuary is composed.

Biochemical oxygen demand (BOD) is a measure of the quantity of dissolved oxygen, in milligrams per liter (mg/L), necessary for the decomposition of organic matter by microorganisms, such as bacteria.

Biomass is the amount of living matter present at any given time, expressed as the mass per unit area of volume of habitat.

Ash mass is the mass of amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500°C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m^3), and those for periphyton and benthic organisms in grams per square meter (g/m^2).

Dry mass refers to the mass of residue present after drying in an oven at 60°C for zooplankton and 105°C for periphyton, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry mass values are expressed in the same units as ash mass.

Organic mass or volatile mass of the living substance is the difference between the dry mass and the ash mass, and represents the actual mass of the living matter. The organic mass is expressed in the same units as for ash mass and dry mass.

Wet mass is the mass of living matter plus contained water.

Bottom material: See Bed material.

Cells/volume refers to the number of cells of any organism which is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample, usually milliliters (mL) or liters (L).

Cfs-day is the volume of water represented by flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, about 646,000 gallons or 2,447 cubic meters. It represents a runoff of approximately 0.0372 inch from 1 square mile, or 0.3468 millimeter from 1 square kilometer.

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water, and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with natural water color or with carbonaceous organic pollution from sewage or industrial wastes.

Chlorophyll refers to the green pigments of plants. Chlorophyll a and b are the two most common pigments in plants.

Contents is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, an artificial structure, or a uniform cross section over a long reach of the channel.

Cubic foot per second (cfs, ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to approximately 7.48 gallons per second, or 448.8 gallons per minute, or 0.02832 cubic meters per second.

Discharge is the volume of water (or more broadly, volume of fluid plus suspended sediment), that passes a given point within a given period of time.

Mean discharge (MEAN) is the arithmetic mean of individual daily mean discharges during a specific period.

Instantaneous discharge is the discharge at a particular instant of time.

Dissolved refers to that material in a representative water sample which passes through a 0.45 µm membrane filter. This may include some very small (colloidal) suspended particles as well as the amount of substance present in true chemical solution. It is a convenient operational definition used by Federal agencies that collect water data. Determinations of "dissolved" constituents are made on subsamples of the filtrate.

Dissolved oxygen (DO) is the dissolved-oxygen content of water in equilibrium with air and is a function of atmospheric pressure and temperature and dissolved-solids concentration of the water. The capacity of water for dissolved-oxygen decreases as dissolved solids or temperature increase or as atmospheric pressure decreases. Dissolved-solids concentration has the least effect on dissolved-oxygen concentration. Photosynthesis and respiration may cause diel variations in dissolved-oxygen concentration in water from some streams.

Drainage area of a stream at a specific location is that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the stream above the specified point. Figures of drainage area given herein include all closed basins, or noncontributing areas, within the area unless otherwise noted.

Gage height (G.H.) is the water-surface elevation referred to some arbitrary gage datum. Gage height is often used interchangeably with the more general term "stage," although gage height is more appropriate when used with a reading on a gage.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of hydrologic data are obtained. When used in connection with a discharge record, the term is applied only to those gaging stations where a continuous record of discharge is computed.

Hardness of water is the physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is attributable to the presence of alkaline earths (principally calcium and magnesium) and is expressed as equivalent calcium carbonate ($CaCO_3$).

Micrograms per liter (UG/L, µg/L) is a unit expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter.

Milligrams per liter (MG/L, mg/L) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represent the mass of solute per unit volume (liter) of water. Concentration of suspended sediment also is expressed in mg/L, and is based on the mass of sediment per liter of water-sediment mixture.

Table 1.--Factors for conversion of chemical constituents in milligrams or micrograms per liter to milliequivalents per liter

Ion	Multi-ply by	Ion	Multi-ply by
Aluminum (Al^{+3})*......	0.11119	Iodide (I^{-1})..........	0.00788
Ammonia as N..........	.07139	Iron (Fe^{+3})*..........	.05372
Barium (Ba^{+2}).........	.01456	Lead (Pb^{+2})*..........	.00965
Bicarbonate (HCO$_3^{-1}$)..	.01639	Lithium (Li^{+1})*.......	.14411
Bromide (Br^{-1})........	.01251	Magnesium (Mg^{+2})......	.08226
Calcium (Ca^{+2})........	.04990	Manganese (Mn^{+2})*.....	.03640
Carbonate (CO$_3^{-2}$).....	.03333	Nickel (Ni^{+2})*........	.03406
Chloride (Cl^{-1}).......	.02821	Nitrate as N..........	.07139
Chromium (Cr^{+6})*......	.11539	Nitrite as N..........	.07139
Cobalt (Co^{+2})*........	.03394	Phosphate,ortho as P..	.09686
Copper (Cu^{+2})*........	.03148	Potassium (K^{+1}).......	.02557
Cyanide (CN^{-1})........	.03844	Sodium (Na^{+1}).........	.04350
Fluoride (F^{-1})........	.05264	Strontium (Sr^{+2})*.....	.02283
Hydrogen (H^{+1})........	.99209	Sulfate (SO$_4^{-2}$).......	.02082
Hydroxide (OH^{-1})......	.05880	Zinc (ZN^{+2})*..........	.03060

*Constituents reported in micrograms per liter; multiply by factor and divide results by 1,000.

National Geodetic Vertical Datum of 1929 (NGVD) is a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada. It was formerly called "Sea Level Datum of 1929" or "mean sea level" in this series of reports. Although the datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf of Mexico, and Pacific Coasts, it does not necessarily represent local mean sea level at any particular place.

Partial-record station is a particular site where limited streamflow or water-quality data are collected systematically over a period of years for use in hydrologic analyses.

Particle size is the diameter, in millimeters (mm), of suspended sediment or bed material determined either by sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

Table 2.--Factors for conversion of sediment concentration in milligrams per liter to parts per million*

[All values calculated to three significant figures]

Range of concentration in 1000 mg/L	Divide by	Range of concentration in 1000 mg/L	Divide by	Range of concentration in 1000 mg/L	Divide by	Range of concentration in 1000 mg/L	Divide by
0 - 8	1.00	201-217	1.13	411-424	1.26	619-634	1.39
8.05- 24	1.01	218-232	1.14	427-440	1.27	636-650	1.40
24.2 - 40	1.02	234-248	1.15	443-457	1.28	652-666	1.41
40.5 - 56	1.03	250-264	1.16	460-473	1.29	668-682	1.42
56.5 - 72	1.04	266-280	1.17	476-489	1.30	684-698	1.43
72.5 - 88	1.05	282-297	1.18	492-506	1.31	700-715	1.44
88.5 -104	1.06	299-313	1.19	508-522	1.32	717-730	1.45
105 -120	1.07	315-329	1.20	524-538	1.33	732-747	1.46
121 -136	1.08	331-345	1.21	540-554	1.34	749-762	1.47
137 -152	1.09	347-361	1.22	556-570	1.35	765-780	1.48
153 -169	1.10	363-378	1.23	572-585	1.36	782-796	1.49
170 -185	1.11	380-393	1.24	587-602	1.37	798-810	1.50
186 -200	1.12	395-409	1.25	604-617	1.38		

*Based on water density of 1.000 g/mL and a specific gravity of sediment of 2.65.

Particle-size classification used in this report agrees with recommendations made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

Classification	Size (mm)	Method of analysis
Clay............	0.00024 - 0.004	Sedimentation
Silt............	.004 - .062	Sedimentation
Sand............	.062 - 2.0	Sedimentation or sieve
Gravel..........	2.0 - 64.0	Sieve

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic material is removed and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native-water analysis.

Periphyton is the assemblage of microorganisms attached to, and growing upon, solid surfaces. While primarily consisting of algae, they also include bacteria, fungi, protozoa, rotifers, and other small organisms. Periphyton is a useful indicator of water quality.

Pesticide network is a network of regularly sampled water-quality stations where samples are collected to determine the concentration and distribution of pesticides in streams whose waters are used for irrigation or in streams in areas where potential contamination could result from the application of the commonly used insecticides and herbicides.

Pesticides are chemical compounds used to control undesirable plants and animals. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides. Insecticides and herbicides, which control insects and plants respectively, are the two categories reported.

Phytoplankton is the plant part of the plankton. They are usually microscopic and their movement is subject to the water currents. Phytoplankton growth is dependent upon solar radiation and nutrient substances. Because they are able to incorporate as well as release materials to the surrounding water, the phytoplankton have a profound effect upon the quality of the water. They are the primary food producers in the aquatic environment, and are commonly known as algae.

Blue-green algae are a group of phytoplankton organisms having a blue pigment, in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water.

Diatoms are the unicellular or colonial algae having a siliceous shell. Their concentrations are expressed as number of cells per mL of sample.

Green algae have chlorophyll pigments similar in color to those of higher green plants. Some forms produce algal mats or floating "moss" in lakes. Their concentrations are expressed as number of cells per mL of sample.

Picocurie (PC, pCi) is one trillionth (1×10^{-12}) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7 X 10 radioactive disintegrations per second. A picocurie yields 2.22 disintegrations per minute (dpm).

Polychlorinated biphenyls (PCBs) are industrial chemicals that are mixtures of chlorinated biphenyl compounds having various percentages of chlorine. They are similar in structure to organochlorine insecticides.

Radiochemical network is a network of regularly sampled water-quality stations where samples are collected monthly or twice a year (at high and low flow) to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

Radioisotopes are isotopic forms of an element that exhibit radioactivity. Isotopes are varieties of a chemical element that differ in atomic weight, but are very nearly alike in chemical properties. The difference arises because the atoms of the isotopic forms of an element differ in the number of neutrons in the nucleus. For example: Ordinary chlorine is a mixture of isotopes having atomic weights 35 and 37, with the natural mixture having atomic weight about 35.453. Many of the elements similarly exist as mixtures of isotopes, and a great many new isotopes have been produced in the operation of nuclear devices such as the cyclotron (Rose and Rose, 1966). There are 275 isotopes of the 81 stable elements in addition to over 800 radioactive isotopes.

Radioisotopes that are determined in this program are natural uranium in ug/L (micrograms per liter), radium as radium-226 in PC/L (pCi/L, picocuries per liter), gross beta radiation as equivalent strontium/yttrium-90 or cesium-137 in PC/L, and gross alpha radiation as micrograms of uranium equivalent per liter (ug/L). Gross alpha and beta radioactivity associated with the fine-grained (silt and clay-sized) sediments in the samples are also determined.

Recoverable from bottom material the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of only readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment and thus the determination represents less than the total amount (that is, less than 95 percent) of the constituent in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material, such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

> Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft (0.09 m) above the bed) expressed as milligrams of dry sediments per liter of water-sediment mixture (mg/L).

Suspended-sediment discharge (tons/day) is the rate at which dry weight of sediment passes a section of a stream or is the quantity of sediment, as measured by dry weight or volume, that passes a section in a given time. It is computed by multiplying discharge in cfs times concentration in mg/L times 0.0027.

Suspended-sediment load is that quantity of suspended sediment passing a section in a specified period.

Total sediment discharge or total sediment load is the sum of the suspended-sediment discharge and the bedload discharge. It is the total quantity of sediment, as measured by dry weight or volume, that passes a section during a given time.

Mean concentration is the time-weighted concentration of suspended sediment passing a stream section during a 24-hour day.

Sodium adsorption ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions with soil and is an index of sodium or alkali hazard to the soil. This ratio should be known especially for water used for irrigating farmland.

Solute is any substance derived from the atmosphere, vegetation, soil, or rocks and is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in micromhos per centimeter at 25°C. Specific conductance is related to the number and specific chemical types of ions in solution and can be used for approximating the dissolved-solids content in the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in micromhos). This relation is not constant from stream to stream or from well to well, and it may vary in the same source with changes in the composition of the water.

Stage-discharge relation is the relation between gage height (stage) and volume of water per unit of time, flowing in a channel.

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff" as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Suspended, recoverable the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45 m membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Determinations of "suspended, recoverable" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total recoverable concentrations of the constituent.

Suspended, total the total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45 m membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total."

Determinations of "suspended, total" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total concentrations of the constituent.

Thermograph is a thermometer that continuously and automatically records, on a chart, the water temperature of a stream. "Temperature recorder" is the term used to indicate the location of the thermograph.

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water that would be contained in a vessel or reservoir that had received equal quantities of water from the stream each day for the water year.

Tons per acre-foot indicates the dry mass of dissolved solids in 1 acre-foot of water. It is computed by multiplying the concentration in milligrams per liter by 0.00136.

Tons per day is the quantity of a substance in solution or suspension that passes a stream section during a 24-hour period.

Total the total amount of a given constituent in a representative water-suspended sediment sample, regardless of the constituent's physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in both the dissolved and suspended phases of the sample. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total." (note that the word "total" does double duty here, indicating both that the sample consists of a water-suspended sediment mixture and that the analytical method determines all of the constituent in the sample.)

Total in bottom material the total amount of a given constituent in a representative sample of bottom material. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total in bottom material."

Total, recoverable the amount of a given constituent that is in solution after a representative water-suspended sediment sample has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all particulate matter is not achieved by the digestion treatment, and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Water year in Geological Survey is the 12-month period, October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1979, is called the "1979 water year."

Weighted average is used in this report to indicate the discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

WDR is an abbreviation for "Water-Data Report" in the summary REVISIONS paragraph to refer to State annual basic-data reports published after 1974.

WRD is used as an abbreviation for "Water-Resources Data" in the summary REVISIONS paragraph to refer to State annual basic-data reports.

WSP is used as an abbreviation for "Water-Supply Paper" in reference to previously published reports.

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column, and are often large enough to be seen with the unaided eye. Zooplankton are secondary consumers feeding upon bacteria, phytoplankton, and detritus. Because they are the grazers in the aquatic environment, the zooplankton are a vital part of the aquatic food web. The zooplankton community is dominated by small crustaceans and rotifers.

DOWNSTREAM ORDER AND STATION NUMBER

Stations are listed in a downstream direction along the main stream, and stations on tributaries are listed between stations on the main stream in the order in which those tributaries enter the main stream. Stations on tributaries entering above all mainstream stations are listed before the first mainstream station. Stations on tributaries to tributaries are listed in a similar manner. In the list of gaging stations in the front of this report the rank of tributaries is indicated by indention, each indention representing one rank.

As an added means of identification, each gaging station and each partial-record station has been assigned a station number. These are in the same downstream order used in this report. In assigning station numbers, no distinction is made between partial-record stations and continuous-record gaging stations; therefore, the station number for a partial-record station indicates downstream order position in a list made up of both types of stations. Water-quality stations located at or near gaging stations or partial-record stations have the same number as the gaging or partial-record station.

Gaps are left in the sequential allocation of numbers to allow for new stations that may be established; hence the numbers are not consecutive. The complete 8-digit number for each station, such as 07083000, which appears just to the left of the station name, includes the 2-digit part number "07" plus the 6-digit downstream order number "083000." In this report the records are listed in downstream order by parts. The part number refers to an area whose boundaries coincide with certain natural drainage lines. Records in this report are for Part 6 (Missouri River basin), Part 7 (Lower Mississippi River basin), and Part 8 (Western Gulf of Mexico basins). Records for Part 9 (Colorado River Basin) are in Volumes 2 and 3. All records for a drainage basin encompassing more than one State can be arranged in downstream order by assembling pages from the various State reports by station number to include all records in the basin.

SPECIAL NETWORKS AND PROGRAMS

Some of the stations for which data are published in this report are included in special networks and programs. These stations are identified by their title, set in parentheses, under the station name.

Hydrologic bench-mark station is one that provides hydrologic data for a basin in which the hydrologic regimen will likely be governed solely by natural conditions. Data collected at a bench-mark station may be used to separate effects of natural from manmade changes in other basins which have been developed and in which the physiography, climate, and geology are similar to those in the undeveloped bench-mark basin.

Irrigation-network stations are water-quality stations located at or near certain streamflow gaging stations west of the main stem of the Mississippi River. Data collected at these stations are used to evaluate the chemical quality of surface waters used for irrigation and the changes resulting from the drainage of irrigated lands. Prior to water year 1966, the data for these stations were published in the annual Water-Supply Paper series, "Quality of Surface Water for Irrigation, Western States."

National stream-quality accounting network (NASQAN) is a data collection network designed by the U.S. Geological Survey to meet many of the information demands of agencies or groups involved in national or regional water-quality planning and management. Both accounting and broad-scale monitoring objectives have been incorporated in the network design. Areal configuration of the network is based on river-basin accounting units (identified by 8-digit hydrologic-unit numbers) designated by the Office of Water Data Coordination in consultation with the Water Resources Council. Primary objectives of the network are: (1) To depict areal variability of streamflow and water-quality conditions nationwide on a year-by-year basis, and (2) to detect and assess long-term changes in streamflow and stream quality.

EXPLANATION OF STAGE AND WATER-DISCHARGE RECORDS

Collection and Computation of Data

The base data collected at gaging stations consist of records of stage and measurements of discharge of streams or canals, and stage, surface area, and contents of lakes or reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from direct readings on a nonrecording gage or from a water-stage recorder that gives either a continuous graph of the fluctuations or a tape punched at 5-, 15-, 30- or 60-minute intervals. Measurements of discharge are made with a current meter, using the general methods adopted by the Geological Survey on the basis of experience in stream gaging since 1888. These methods are described in standard textbooks, in Water-Supply Paper 888, and in U.S. Geological Survey Techniques of Water Resources Investigations, book 3, chapter A6. Surface areas of lakes or reservoirs are determined from instrument surveys using standard methods. The configuration of the reservoir bottom is determined by sounding at many points.

For stream-gaging stations, rating tables giving the discharge for any stage are prepared from stage-discharge relation curves. If extensions to the rating curves are necessary to express discharge greater than measured, they are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, computation of flow over dams or weirs), step-backwater techniques, velocity-area studies, and logarithmic plotting. The daily mean discharge is computed from gage heights and rating tables, then the monthly and yearly mean discharge are computed from the daily figures. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is computed by the shifting-control method, in which correction factors based on individual discharge measurements and notes by hydrologists and observers are used in applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the control, the daily mean discharge is computed by what is basically the shifting-control method.

At some stream-gaging stations the stage-discharge relation is affected by ice in the winter, and it becomes impossible to compute the discharge in the usual manner. Discharge for periods of ice effect is computed on the basis of the gage-height record and winter discharge measurements, consideration being given to the available information on temperature and precipitation, notes by gage observers and hydrologists, and comparable records of discharge for other stations in the same or nearby basins.

For a lake or reservoir station, capacity tables giving the contents for any stage are prepared from stage-area relation curves defined by surveys. The application of the stage to the capacity table gives the contents, from which the daily, monthly, or yearly change in contents is computed.

If the stage-capacity curve is subject to changes because of deposition of sediment in the reservoir, periodic resurveys of the reservoir are necessary to define new stage-capacity curves. During the period between reservoir surveys the computed contents may be increasingly in error due to the gradual accumulation of sediment.

For some gaging stations there are periods when no gage-height record is obtained or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods the daily discharges are estimated on the basis of recorded range in stage, adjoining good record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise, daily contents may be estimated on the basis of operator's log, adjoining good record, inflow-outflow studies, and other information.

The data in this report generally comprise a description of the station and tabulations of daily and monthly figures. For gaging stations on streams or canals a table showing the daily discharge and monthly and yearly discharge is given. For gaging stations on lakes and reservoirs a monthly summary table of stage and contents or a table showing the daily contents is given. Records are published for the water year, which begins on October 1 and ends on September 30. A calendar for the current water year is shown on the inside of the front cover to facilitate finding the day of the week for any date.

The description of the gaging station gives the location, drainage area, period of record, notations of revisions of previously published records, type and history of gages, general remarks, average discharge, and extremes of discharge or contents. The location of the gaging station and the drainage area are obtained from the most accurate maps available. Periods for which there are published records for the present station or for stations generally equivalent to the present one are given under "PERIOD OF RECORD."

Previously published streamflow records of some stations have been found to be in error on the basis of data or information later obtained. Revisions of such records are usually published along with the current records in one of the annual or compilation reports. In order to make it easier to find such revised records, a paragraph headed "REVISED RECORDS" has been added to the description of all stations for which revised records have been published. Listed therein are all the reports in which revisions have been published, each followed by the water years for which figures are revised in that report. In listing the water years only one number is given; for instance, 1933 stands for the water year October 1, 1932, to September 30, 1933. If no daily, monthly, or annual figures of discharge are affected by the revisions, the fact is brought out by notations after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the revised figure was first published is given.

The type of gage currently in use, the datum of the present gage above mean sea level, referred to National Geodetic Vertical Datum; and a condensed history of the types, locations, and datums of previous gages used during the period of record are given under "GAGE." In references to datum of gage, the phrase "mean sea level" denotes "Sea Level Datum of 1929" as used by the Topographic Division of the Geological Survey unless otherwise qualified. National Geodetic Vertical Datum is explained in "DEFINITION OF TERMS."

Information pertaining to the accuracy of the discharge records, to conditions which affect the natural flow of the gaging station, availability of water-quality records, and reservoir stations information on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir, is given under "REMARKS."

The average discharge for the number of years indicated is given under "AVERAGE DISCHARGE;" it is not given for stations having fewer than 5 complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance.

The maximum discharge (or contents) and the maximum gage height, the minimum discharge if there is little or no regulation (or minimum contents), and the minimum gage height, if it is significant, are given under "EXTREMES." The minimum daily discharge is given if there is extensive regulation (also the minimum discharge and gage height if they are abnormally low). Under "EXTREMES" are given first, the extremes for the period of record, second, information available outside the period of record, and last, those for the current year. Unless otherwise qualified, the maximum discharge (or contents) is the instantaneous maximum corresponding to the crest stage obtained by use of a water-stage recorder (graphic or digital), a crest-stage gage, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur on the same day as the maximum discharge (or contents), it is given separately. Similarly, the minimum is the instantaneous minimum unless otherwise qualified. For some stations peak discharges are listed with EXTREMES FOR THE CURRENT YEAR; if they are, all independent peaks, including the maximum for the year, above the selected base with the time of occurrence and corresponding gage heights are published in tabular format. The base discharge, which is given in the table heading, is selected so that an average of about three peaks a year will be presented. Peak discharges are not published for any canals, ditches, drains, or for any stream for which the peaks are subject to substantial control by man. Time of day is expressed in 24-hour local standard time; for example, 12:30 a.m. is 0030, 1:30 p.m. is 1330. The minimums for these stations are published in a separate paragraph following the table of peaks.

The daily table for stream-gaging stations gives the mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second (ft^3/s) during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month.

Discharge for the month also may be expressed in acre-feet (line headed "AC-FT"). In the yearly summary below the monthly summary, the figures shown are the appropriate daily discharges for the calendar and water years.

Footnotes to the table of daily discharge are introduced by the word "NOTE." Footnotes are used to indicate periods for which the discharge is computed or estimated by special methods because of no gage-height record, backwater from various sources, or other unusual conditions. Periods of no gage-height record are indicated if the period is continuous for a month or more or includes the maximum discharge for the year. Periods of backwater from an unusual source, of indefinite stage-discharge relation, or of any other unusual condition at the gage site are indicated only if they are a month or more in length and the accuracy of the records is affected. Days on which the stage-discharge relation is affected by ice are not indicated. The methods used in computing discharge for various unusual conditions have been explained in preceding paragraphs.

For most gaging stations on lakes and reservoirs the data presented comprise a description of the station and a monthly summary table of stage and contents. For some reservoirs a table showing daily contents or stage is given. A skeleton table of capacity at given stages is published for all reservoirs for which records are published on a daily basis, but is not published for reservoirs for which only monthly data are given.

Data collected at partial-record stations and at miscellaneous sites follow the information for continuous record sites. Data for partial-record discharge stations are presented in three tables. The first is a table of discharge measurements at low-flow partial-record stations, the second is a table of annual maximum stage and discharge at crest-stage stations, and the third is a table of discharge measurements at miscellaneous sites.

Accuracy of field data and computed results

The accuracy of streamflow data depends primarily on (1) the stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements, and (2) the accuracy of observations of stage, measurements of discharge, and interpretations of records.

The station description under "REMARKS" states the degree of accuracy of the records. "Excellent" means that about 95 percent of the daily discharges are within 5 percent; "good" means within 10 percent; and "fair" within 15 percent. "Poor" means that daily discharges have less than "fair" accuracy.

Figures of daily mean discharge in this report are shown to the nearest hundredth of a cubic foot per second (ft^3/s) for discharges of less than 1 ft^3/s; to tenths between 1.0 and 10 ft^3/s; to whole numbers between 10 and 1,000 ft^3/s; and to 3 significant figures above 1,000 ft^3/s. The number of significant figures used is based solely on the magnitude of the figure. The same rounding rules apply to discharge figures listed for partial-record stations and miscellaneous sites.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. However, because all the effects cannot be measured or evaluated, satisfactory adjustments generally cannot be made. For some stations, available figures of diversions or change in contents of reservoirs are included as supplemental data. Even at those stations where adjustments can be made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Other Data Available

Information of a more detailed nature than that published for most of the gaging stations, such as observations of water temperatures, discharge measurements, gage-height records, and rating tables is on file in the district office. Also most gaging-station records are available in computer-usable form and many statistical analyses have been made.

Information on the availability of unpublished data or statistical analyses may be obtained from the district office.

Records of Discharge Collected by Agencies other than the Geological Survey

Records of discharge not published by the Geological Survey were collected at many sites in Colorado during the water year by the following agencies: City of Colorado Springs; Colorado Division of Water Resources; Forest Service, U.S. Department of Agriculture; City and County of Denver, Board of Water Commissioners; National Weather Service, Department of Commerce; and Water and Power Resources Service, U.S. Department of the Interior.

EXPLANATION OF WATER-QUALITY RECORDS

Collection and Examination of Data

Water samples for analyses usually are collected at or near streamflow-gaging stations. The quality-of-water records are given immediately following the discharge records at these stations.

The descriptive heading for water-quality records gives the period of record for all water-quality data, the period of daily record for parameters that are measured on a daily basis (such as, specific conductance, pH, dissolved oxygen, water temperature, sediment discharge), extremes for the period of daily record, extremes for current year, and general remarks.

For ground-water records, no descriptive statements are given; however, the well number, depth of well, date of sampling, or other pertinent data are given in the table containing the chemical analyses of the ground water.

Water Analysis

Most methods for collecting and analyzing water samples are described in "U.S. Geological Survey Techniques of Water-Resources Investigations," which are listed on page 35.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load.

Chemical-quality data are considered to be the most representative values available for the stations listed. The values reported represent water-quality conditions at the time of sampling, as much as possible, consistent wth available sampling techniques and methods of analysis. In the rare case where an apparent inconsistency exists between a reported pH value and the relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is the result of a slight uptake of carbon dioxide from the air by the sample between measurement of pH in the field determination of carbonate and bicarbonate in the laboratory.

Prior to the 1968 water year, data for chemical constituents and concentrations of suspended sediment were reported in parts per million (ppm) and water temperatures were reported in degrees Fahrenheit (°F). In October 1967, the Geological Survey began reporting data for chemical constituents and concentrations of suspended sediment in milligrams per liter (mg/L) and water temperatures in degrees Celsius (°C). In waters with a density of 1.000 grams per milliliter (g/mL), parts per million and milligrams per liter can be considered equal. In waters with a density greater than 1.000 g/mL, values in parts per million should be multiplied by the density to convert to milligrams per liter. Temperature reported in degrees Celsius may be converted to degrees Fahrenheit by using table 3.

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum, minimum, and mean values for each constituent measured and are based upon hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained from the district office.

Water Temperatures

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at the time of discharge measurements for surface-water stations. For stations where water temperatures are taken manually the water temperatures are taken at about the same time each day. Large streams have a small diel temperature change; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges. At stations where recording instruments are used, either mean temperatures or maximum and minimum temperatures for each day are published.

Table 3.--Degrees Celsius (°C) to degrees Fahrenheit (°F)*
(Temperature reported to nearest 0.5°C)

°C	°F	°C	°F	°C	°F	°C	°F	°C	°F
0.0	32	10.0	50	20.0	68	30.0	86	40.0	104
.5	33	10.5	51	20.5	69	30.5	87	40.5	105
1.0	34	11.0	52	21.0	70	31.0	88	41.0	106
1.5	35	11.5	53	21.5	71	31.5	89	41.5	107
2.0	36	12.0	54	22.0	72	32.0	90	42.0	108
2.5	36	12.5	54	22.5	72	32.5	90	42.5	108
3.0	37	13.0	55	23.0	73	33.0	91	43.0	109
3.5	38	13.5	56	23.5	74	33.5	92	43.5	110
4.0	39	14.0	57	24.0	75	34.0	93	44.0	111
4.5	40	14.5	58	24.5	76	34.5	94	44.5	112
5.0	41	15.0	59	25.0	77	35.0	95	45.0	113
5.5	42	15.5	60	25.5	78	35.5	96	45.5	114
6.0	43	16.0	61	26.0	79	36.0	97	46.0	115
6.5	44	16.5	62	26.5	80	36.5	98	46.5	116
7.0	45	17.0	63	27.0	81	37.0	99	47.0	117
7.5	45	17.5	63	27.5	81	37.5	99	47.5	117
8.0	46	18.0	64	28.0	82	38.0	100	48.0	118
8.5	47	18.5	65	28.5	83	38.5	101	48.5	119
9.0	48	19.0	66	29.0	84	39.0	102	49.0	120
9.5	49	19.5	67	29.5	85	39.5	103	49.5	121

*°C=5/9(°F-32°) or °F=9/5(°C)+32°.

In October 1968, the Geological Survey began reporting many of the chemical constituents as well as the minor elements in micrograms per liter instead of milligrams per liter. See "Definition of Terms," and table 5 for converting English units to SI units.

The biological information includes qualitative and quantitative analyses of plankton, periphyton, Chlorophyll a and b, biomass and bottom organisms. Microbiological information includes quantitative identification of selected bacteriological indicator organisms.

Solutes

Most methods for collecting and analyzing water samples to determine the kinds and concentrations of solutes are described by Brown, Skougstad, and Fishman (1970). Analysis of pesticides and organic substances in water are described by Goerlitz and Lamar (1967), Lamar, Goerlitz, and Law (1965), and Goerlitz and Brown (1972). The collection and analysis of aquatic, biological, and microbiological samples are described by Slack and others (1973).

Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating samplers. Samples usually are obtained at several verticals in the cross section, or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross sections.

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration were computed by the subdivided day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided day method. For periods when no samples were collected, daily loads of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge. A blank in the daily mean concentration column of the suspended-sediment discharge table indicates the value in the sediment discharge column was estimated. A zero value in the sediment-discharge column when there are nonzero values in the mean discharge and mean concentration columns indicates the load is less than 0.005 ton per day.

At other stations, suspended-sediment samples were collected periodically at many verticals in the stream cross section. Although data collected periodically may represent conditions only at the time of observations, such data are useful in establishing seasonal relations between quality and streamflow in predicting long-term sediment-discharge characteristics of the streams.

In addition to the records of the quantities of suspended sediment, records of the periodic measurements of the particle-size distribution of the suspended sediment and bed material are included.

WATER-SUPPLY PAPERS

The annual series of Water-Supply Papers that give information on quality of surface waters in Colorado are shown in the following table:

Table 4.--Water-Supply Paper numbers and parts, water years 1941-71

Year	Part 6	Part 7	Part 8	Part 9	Irrigation (1951-65)[a]
1941	942	942	942	942	----
1942	950	950	950	950	----
1943	970	970	970	970	----
1944	1022	1022	1022	1022	----
1945	1030	1030	1030	1030	----
1946	1050	1050	1050	1050	----
1947	1102	1102	1102	1102	----
1948	1132	1133	1133	1133	----
1949	1162	1163	1163	1163	----
1950	1187	1188	1188	1189	----
1951	1198	1199	1199	1200	----
1952	1251	1252	1252	1253	1264
1953	1291	1292	1292	1293	1362
1954	1351	1352	1352	1353	1380
1955	1401	1402	1402	1403	1430
1956	1451	1452	1452	1453	1465
1957	1521	1522	1522	1523	1485
1958	1572	1573	1573	1574	1524
1959	1643	1644	1644	1645	1575
1960	1743	1744	1744	1745	1699
1961	1883	1884	1884	1885	1746
1962	1943	1944	1944	1945	1886
1963	1949	1950	1950	1951	1946
1964	1956	1957	1957	1958	1952
1965	1963	1964	1964	1965	1960
1966	1993	1994	1994	1995	1967
1967	2013	2014	2014	2015	----
1968	2095	2096	2097	2098	----
1969	2145	2146	2147	2148	----
1970	2155	2156	2157	2158	----
1971	2165	[b]2166	[b]2167	[b]2168	----

[a] Annual series, "Quality of Surface Waters for Irrigation, Western States."

[b] In preparation.

Information about reports and other data on quality of water in Colorado may be obtained from the district office at the address given on the back of the title page of this report.

EXPLANATION OF GROUND-WATER-LEVEL RECORDS

Collection of Data

Only ground-water level data from a basic national network of observation wells are published herein. These water-level measurements are intended to provide a record of water-level changes in important aquifers.

The locations of wells are referenced by two systems. One system is based on latitude and longitude, and the second is based on the U.S. Bureau of Land Management system of land subdivision. The latitude and longitude grid system facilitates machine processing of data and plotting of data points.

The latitude and longitude grid system is used to provide the geographic location of each well. The number consists of 15 digits. The first six digits denote the degrees, minutes, and seconds of latitude; N designates north; the next seven digits denote degrees, minutes, and seconds of longitude; and the last digit is a sequential number for wells within a 1-second grid, as shown below in figure 4.

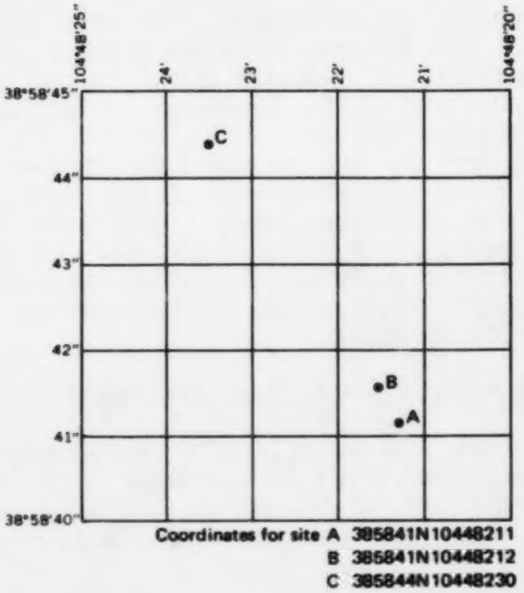
104°48'25"
24'
23'
22'
21'
104°48'20"
38°58'45"
44"
43"
42"
41"
38°58'40"
C
B
A
Coordinates for site A 385841N10448211
B 385841N10448212
C 385844N10448230

Figure 4.--System for numbering wells and miscellaneous sites (latitude and longitude).

The local well number locates a well within a 10-acre (4.0-ha) tract using the U.S. Bureau of Land Management system of land subdivision. The components of the local well number proceed from the largest to the smallest land subdivisions. This is in contrast to the legal description, which proceeds from the smallest to the largest land subdivision. The largest subdivision is the survey. Colorado is governed by three surveys: The Sixth Principal Meridian Survey (S), the New Mexico Survey (N), and the Ute Survey (U). Costilla County was not included in any of the above official surveys. This report follows the convention of the Costilla County Assessor in which the northern part of the county is governed by the Sixth Principal Meridian Survey and the southern part of the county is governed by a local system called the Costilla Survey (C). The first letter of the well location designates the survey.

A survey is subdivided into four quadrants formed by the intersection of the baseline and the principal meridian. The second letter of the well location designates the quadrant: A indicates the northeast quadrant, B the northwest, C the southwest, and D the southeast. A quadrant is subdivided in the north-south direction every 6 mi (10 km) by townships and is subdivided in the east-west direction every 6 mi (10 km) by ranges. The first number of the well location designates the township and the second number designates the range.

The 36-mi² (93-km²) area described by the township and range designation is subdivided into 1-mi² (2.59-km²) areas called sections. The sections are numbered sequentially. The third number of the well location designates the section. The section, which contains 640 acres (259 ha), is subdivided into quarter sections. The 160-acre (64.8-ha) area is designated by the first letter following the section: A indicates the northeast quarter, B the northwest, C the southwest, and D the southeast. The quarter section is subdivided into quarter-quarter sections. The 40-acre (16.2-ha) area is designated in the same manner by the second letter following the section. The quarter-quarter section is subdivided into quarter-quarter-quarter sections. The 10-acre (4.0-ha) area is designated in the same manner by the third letter following the section. If more than one well is located within the 10-acre (4.0-ha) tract, the wells are numbered sequentially in the order in which they were originally inventoried. If this number is necessary, it will follow the three-letter designation.

The local number is provided for continuity with older reports.

Measurements are made in many types of wells under varying conditions, but the methods of measurement are standardized to the extent possible. The equipment and measuring techniques used at each observation well insure that measurements at each well are of consistent accuracy and reliability.

Water-level measurements in this report are given in feet with reference to either mean sea level (msl) or land-surface datum (lsd). Mean sea level is the datum plane on which the national network of precise levels is based; land-surface datum is a datum plane that is approximately at land surface at each well. If known, the altitude of the land-surface datum above mean sea level is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description. Water levels in wells equipped with recording gages are reported for every fifth day and the end of each month (eom).

Water levels are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth to water of several hundred feet, the error of determining the absolute value of the total depth to water may be a few tenths of a foot, whereas the error in determining the net change of water level between successive measurements may be only a hundredth or a few hundredths of a foot. For lesser depths to water, the accuracy is greater. Accordingly, most measurements are reported to a hundredth of a foot, but some are given only to a tenth of a foot or a larger unit.

Publications

Publication of ground-water level data for the United States in water-supply papers was begun by the Geological Survey in 1935. From 1935 through 1939, a single water-supply paper covering the entire nation was issued each year (Water-Supply Papers 777, 817, 840, 845, and 886). From 1940 through 1974, separate water-supply papers were issued for six sections of the United States. Water-level data for Colorado are included in the water-supply papers listed below, each report containing one or more calendar years (January through December) of data. Data in this report are for the 12-month water year ending September 30.

Calendar year	WSP no.	Calendar year	WSP no.	Calendar year	WSP no.	Calendar year	WSP no.
1940	910	1945	1027	1950	1169	1955	1408
1941	940	1946	1075	1951	1195	1956-60	1760
1942	948	1947	1100	1952	1225	1961-65	1845
1943	990	1948	1130	1953	1269	1966-70	1980
1944	1020	1949	1160	1954	1325		

Information about reports and other data on ground water in Colorado may be obtained from the district office at the address given on the back of the title page of this report.

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MISSOURI RIVER BASIN

PLATTE RIVER BASIN

06611100 GRIZZLY CREEK NEAR SPICER, CO

LOCATION.--Lat 40°29'36", long 106°26'57", in NW¼NE¼ sec.14, T.6 N., R.81 W., Jackson County, Hydrologic Unit 10180001, on right bank 0.5 mi (0.8 km) upstream from mouth of Mexican Creek, 1.8 mi (2.9 km) north of Spicer, and 4.7 mi (7.6 km) south of Coalmont.

DRAINAGE AREA.--119 mi^2 (308 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1976 to September 1979 (discontinued).

GAGE.--Water-stage recorder. Altitude of gage is 8,234 ft (2,510 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Natural flow of stream affected by numerous diversions for irrigation of hay meadows and return flow from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 864 ft^3/s (24.5 m^3/s) May 19, 1979, gage height, 5.58 ft (1.701 m); minimum daily, 1.2 ft^3/s (0.034 m^3/s) Sept. 18-20, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 864 ft^3/s (24.5 m^3/s) at 0600 May 19, gage height, 5.58 ft (1.701 m); minimum daily, 2.6 ft^3/s (0.074 m^3/s) Oct. 3, 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	14	13	13	13	15	17	307	381	156	28	15
2	2.8	14	13	13	13	15	16	303	353	141	24	14
3	2.6	13	13	13	13	15	16	264	345	113	21	13
4	2.6	14	13	13	13	15	17	243	361	92	18	13
5	2.8	14	13	13	13	15	18	347	381	92	16	12
6	7.0	12	13	13	14	15	20	465	408	87	15	11
7	9.0	11	12	13	14	15	20	466	498	91	14	11
8	9.0	12	11	13	14	15	22	273	513	66	14	8.8
9	9.0	11	11	13	14	15	22	195	507	51	14	8.3
10	10	11	12	13	14	15	24	165	358	40	21	8.3
11	10	10	13	13	14	15	24	144	305	36	19	9.6
12	10	10	13	13	15	16	24	140	287	40	17	9.5
13	9.0	9.5	13	13	15	16	26	162	318	38	16	9.9
14	9.0	9.0	13	13	15	16	28	296	350	41	19	11
15	9.0	8.0	13	13	15	16	30	496	364	45	19	11
16	10	8.0	13	13	15	17	35	607	334	42	22	11
17	10	8.5	13	13	15	17	45	624	289	39	23	11
18	10	9.0	13	13	15	17	60	715	254	48	19	9.1
19	10	10	13	13	15	17	80	750	251	40	22	8.3
20	10	10	13	13	15	17	100	714	212	27	33	8.5
21	12	11	13	13	15	17	150	687	163	26	46	10
22	14	11	13	13	15	17	213	688	146	24	29	9.4
23	18	11	13	13	15	17	291	680	148	25	22	8.8
24	16	11	13	13	15	17	271	676	148	34	19	8.8
25	17	11	13	13	15	18	232	674	149	34	17	8.7
26	17	11	13	13	15	19	230	655	143	34	16	9.0
27	15	10	13	13	15	19	227	656	138	35	16	11
28	15	10	13	13	15	18	237	699	145	38	15	12
29	15	11	13	13	---	18	229	751	144	33	14	13
30	15	12	13	13	---	18	269	638	150	29	15	12
31	15	---	13	13	---	18	---	483	---	27	17	---
TOTAL	323.8	327.0	397	403	404	510	2993	14963	8543	1664	620	316.0
MEAN	10.4	10.9	12.8	13.0	14.4	16.5	99.8	483	285	53.7	20.0	10.5
MAX	18	14	13	13	15	19	291	751	513	156	46	15
MIN	2.6	8.0	11	13	13	15	16	140	138	24	14	8.3
AC-FT	642	649	787	799	801	1010	5940	29680	16950	3300	1230	627

CAL YR 1978 TOTAL 29608.6 MEAN 81.1 MAX 715 MIN 2.6 AC-FT 58730
WTR YR 1979 TOTAL 31463.8 MEAN 86.2 MAX 751 MIN 2.6 AC-FT 62410

NOTE.--NO GAGE-HEIGHT RECORD DEC. 8 TO APR. 10.

06611100 GRIZZLY CREEK NEAR SPICER, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1976 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNESIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORPTION RATIO
OCT 03...	1300	2.3	270	7.8	9.0	8.0	130	3	36	8.8	13	.5
MAR 19...	1515	15	200	7.2	.0	7.1	94	4	27	6.4	8.0	.4
APR 26...	1600	257	200	7.8	4.0	7.5	90	17	25	6.8	7.1	.3
MAY 24...	1700	732	120	7.6	9.0	8.6	51	10	15	3.2	3.2	.2
JUN 12...	1110	311	120	7.6	10.0	8.2	53	6	16	3.2	3.7	.2
JUL 18...	0810	49	170	8.1	14.0	--	63	0	18	4.5	5.9	.3
AUG 27...	1430	15	130	7.3	17.5	7.9	59	4	17	4.1	5.7	.3

DATE	POTASSIUM, DIS-SOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)
OCT 03...	2.7	150	0	120	21	1.7	.1	15	173	.24	1.07
MAR 19...	2.3	110	0	90	14	1.2	.2	23	137	.19	5.55
APR 26...	3.1	90	0	74	24	1.9	.1	13	127	.17	88.1
MAY 24...	1.7	50	0	41	11	.9	.2	9.7	70	.10	138
JUN 12...	1.1	58	0	48	8.1	.8	.1	11	73	.10	61.3
JUL 18...	1.6	80	0	66	8.9	.9	.2	22	102	.14	13.5
AUG 27...	2.2	68	0	56	16	.8	.2	26	106	.14	4.32

06611100 GRIZZLY CREEK NEAR SPICER, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS, DISSOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P)	BORON, DISSOLVED (UG/L AS B)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)
OCT 03...	.01	.01	.99	1.0	.030	.02	--	--	360	--	40
MAR 19...	.07	--	--	--	--	.04	30	480	150	60	60
APR 26...	.28	--	--	--	--	.10	70	2500	240	150	80
MAY 24...	.05	--	--	--	--	.02	40	1800	180	50	20
JUN 12...	.00	--	--	--	--	.00	20	1800	170	60	40
JUL 18...	.00	--	--	--	--	.03	30	900	320	70	40
AUG 27...	.02	--	--	--	--	.10	20	690	450	30	30

DATE	TIME	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)
OCT 03...	1300	--	--	--	0	--	1	--	2	--	--	--
MAY 24...	1700	960	60	2	1	0	0	8	0	7	0	.0
JUL 18...	0810	240	20	--	--	--	--	--	--	130	13	--

DATE	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)
OCT 03...	.0	--	0	--	4	--	0	--	--	--	7.0
MAY 24...	.0	3	0	7	0	0	0	20	10	10	11
JUL 18...	--	--	--	--	--	--	--	20	20	7.2	4.5

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 03...	1300	2.3	6	.04	16
MAR 19...	1515	15	17	.69	35
APR 26...	1600	257	141	98	74
MAY 24...	1700	732	48	95	92
JUN 12...	1100	311	80	67	84
12...	1110	311	81	68	95
JUL 18...	0810	49	17	2.2	--
AUG 27...	1430	15	9	.37	--

06611200 BUFFALO CREEK NEAR HEBRON, CO

LOCATION.--Lat 40°31'23", long 106°22'07", in NW¼NW¼ sec.3, T.6 N., R.80 W., Jackson County, Hydrologic Unit 10180001, on left bank 650 ft (198 m) below mouth of Coyote Creek, 5.4 mi (8.7 km) southeast of Hebron, and 6.0 mi (9.7 km) northeast of Spicer.

DRAINAGE AREA.--56.3 mi² (145.8 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1976 to current year.

REVISED RECORDS.--WDR CO-78-1: 1977.

GAGE.--Water-stage recorder. Altitude of gage is 8,190 ft (2,496 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Natural flow of stream affected by numerous diversions for irrigation of hay meadows and return flow from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 92 ft³/s (2.61 m³/s) June 8, 1979, gage height, 3.90 ft (1.189 m); maximum gage height, 5.28 ft (1.609 m) at 1000 Apr. 18, 1979 (backwater from ice); minimum daily discharge, 0.04 ft³/s (0.001 m³/s) Apr. 30, May 1, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 92 ft³/s (2.61 m³/s) at 1900 June 8, gage height, 3.90 ft (1.189 m); maximum gage height, 5.28 ft (1.609 m) at 1000 Apr. 18 (backwater from ice); minimum daily discharge, 0.30 ft³/s (0.008 m³/s) Oct. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.38	2.8	3.0	3.0	3.0	4.0	6.0	27	21	18	6.1	2.2
2	.33	2.9	2.8	3.0	3.0	4.0	6.0	30	16	21	5.2	1.1
3	.30	2.8	2.5	3.0	3.0	4.0	6.1	26	13	18	4.6	.94
4	.35	2.8	2.5	3.0	3.0	4.0	6.2	23	12	17	4.3	.84
5	.36	2.5	2.5	3.0	3.0	4.0	6.2	24	12	14	4.0	.71
6	.37	2.5	2.5	3.0	3.5	4.0	6.2	26	14	13	3.8	.66
7	.47	2.3	2.5	3.0	3.5	4.0	6.2	25	22	16	3.4	.59
8	.61	2.3	2.5	3.0	3.5	4.0	6.5	24	64	15	3.2	.46
9	.66	2.3	2.7	3.0	3.5	4.0	6.5	25	80	13	3.4	.50
10	.66	2.2	3.0	3.0	3.5	4.0	6.5	26	56	18	4.1	.76
11	.66	2.0	3.0	3.0	3.5	4.0	7.0	23	31	20	5.0	1.4
12	.67	1.8	3.0	3.0	3.5	4.0	7.0	19	24	23	3.7	2.6
13	.72	1.6	3.0	3.0	4.0	4.0	7.0	19	19	22	3.4	2.8
14	.72	1.4	3.0	3.0	4.0	4.0	7.5	18	20	16	3.6	.86
15	.79	1.0	3.0	3.0	4.0	4.0	8.0	19	23	18	4.1	.72
16	.78	1.0	3.0	3.0	4.0	4.5	9.0	21	26	18	4.5	.67
17	.77	1.2	3.0	3.0	4.0	4.5	10	21	24	22	4.9	.57
18	.88	1.5	3.0	3.0	4.0	4.5	12	21	22	20	4.5	.44
19	.88	2.0	3.0	3.0	4.0	4.5	15	21	39	16	5.5	.40
20	.88	2.0	3.0	3.0	4.0	5.0	25	20	28	14	8.1	.48
21	.94	2.5	3.0	3.0	4.0	5.1	35	18	18	13	8.9	.61
22	1.5	2.5	3.0	3.0	4.0	5.2	45	15	15	16	5.8	.64
23	1.6	2.5	3.0	3.0	4.0	5.3	60	12	14	12	4.8	.51
24	1.9	2.5	3.0	3.0	4.0	5.5	80	12	14	15	4.5	.39
25	1.9	2.5	3.0	3.0	4.0	5.5	70	11	15	14	4.5	.37
26	1.8	2.5	3.0	3.0	4.0	5.5	52	19	15	10	3.9	.47
27	3.5	2.5	3.0	3.0	4.0	5.5	47	18	14	9.3	3.6	.87
28	3.3	2.7	3.0	3.0	4.0	5.7	38	26	14	11	3.4	.91
29	3.1	3.0	3.0	3.0	---	5.9	24	33	15	8.7	2.9	.83
30	2.9	3.0	3.0	3.0	---	6.0	24	29	15	7.0	2.9	.78
31	2.7	---	3.0	3.0	---	6.0	---	28	---	6.4	3.1	---
TOTAL	37.38	67.1	89.5	93.0	103.5	144.2	644.9	679	715	474.4	137.7	26.08
MEAN	1.21	2.24	2.89	3.00	3.70	4.65	21.5	21.9	23.8	15.3	4.44	.87
MAX	3.5	3.0	3.0	3.0	4.0	6.0	80	33	80	23	8.9	2.8
MIN	.30	1.0	2.5	3.0	3.0	4.0	6.0	11	12	6.4	2.9	.37
AC-FT	74	133	178	184	205	286	1280	1350	1420	941	273	52

CAL YR 1978 TOTAL 1070.37 MEAN 2.93 MAX 22 MIN .04 AC-FT 2120
WTR YR 1979 TOTAL 3211.76 MEAN 8.80 MAX 80 MIN .30 AC-FT 6370

NOTE.--NO GAGE-HEIGHT RECORD DEC. 7 TO MAR. 20.

06611200 BUFFALO CREEK NEAR HEBRON, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1976 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO
OCT 03...	1545	.35	500	8.2	9.5	8.0	220	0	57	18	34	1.0
MAR 20...	1030	5.2	280	7.3	.0	8.5	140	0	38	10	15	.6
APR 26...	1315	53	380	7.9	5.0	7.8	130	0	31	13	31	1.2
MAY 24...	1545	13	520	8.1	17.0	6.6	180	0	42	18	49	1.6
JUN 19...	1630	46	380	8.1	18.0	8.0	140	54	33	13	32	1.2
JUL 16...	1415	16	279	7.6	19.0	--	110	0	30	8.9	13	.5
AUG 28...	1030	3.7	300	7.9	11.0	8.3	120	0	33	10	20	.8

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)
OCT 03...	3.1	280	0	230	55	6.7	.4	16	329	.45	.31
MAR 20...	3.1	170	0	140	20	2.8	.3	24	198	.27	2.78
APR 26...	5.6	170	0	140	56	5.0	.3	17	244	.33	34.9
MAY 24...	5.3	250	0	210	59	6.4	.5	29	334	.45	11.7
JUN 19...	3.0	100	0	100	30	3.8	.4	27	142	.19	17.6
JUL 16...	2.0	160	0	130	9.0	1.6	.3	27	171	.23	7.39
AUG 28...	2.7	170	0	140	26	3.2	.3	24	204	.28	2.04

DATE	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS, DISSOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P)	BORON, DISSOLVED (UG/L AS B)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)
OCT 03...	.00	.01	.43	.44	.080	.05	--	--	80	--	360
MAR 20...	.03	--	--	--	--	.06	30	450	130	100	70
APR 26...	.24	--	--	--	--	.15	50	900	190	100	90
MAY 24...	.02	--	--	--	--	.08	70	760	130	90	60
JUN 19...	.00	--	--	--	--	--	0	1200	80	30	20
JUL 16...	.00	--	--	--	--	.03	50	1200	280	170	140
AUG 28...	.04	--	--	--	--	.08	30	1000	340	80	60

06611200 BUFFALO CREEK NEAR HEBRON, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)
OCT												
03...	1545	--	--	--	0	--	1	--	1	--	--	--
MAY												
24...	1545	370	20	1	1	0	1	4	0	7	0	.1
JUL												
16...	1415	330	30	--	--	--	--	--	--	59	38	--

DATE	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)
OCT											
03...	.0	--	0	--	4	--	0	--	--	--	7.8
MAY											
24...	.1	2	0	6	0	0	0	10	10	28	21
JUL											
16...	--	--	--	--	--	--	--	10	8	13	12

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT					
03...	1545	.35	18	.02	--
MAR					
20...	1030	5.2	31	.44	61
APR					
26...	1415	52	48	6.7	46
MAY					
08...	1630	24	49	3.2	71
24...	1545	13	34	1.2	47
JUN					
19...	1630	46	21	2.6	--
JUL					
16...	1415	16	21	.91	--
AUG					
28...	1030	3.7	20	.20	--

06611300 GRIZZLY CREEK NEAR HEBRON, CO

LOCATION.--Lat 40°33'27", long 106°23'22", in SE¼SE¼ sec.20, T.7 N., R.80 W., Jackson County, Hydrologic Unit 10180001, on right bank 1.0 mi (1.6 km) below mouth of Buffalo Creek, 2.8 mi (4.5 km) southeast of Hebron, and 2.8 mi (4.5 km) east of Coalmont.

DRAINAGE AREA.--223 mi² (578 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1976 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 8,130 ft (2,478 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Natural flow of stream affected by numerous diversions for irrigation of hay meadows and return flow from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,030 ft³/s (29.2 m³/s) May 19, 1979, gage height, 4.73 ft (1.442 m); minimum daily, 0.47 ft³/s (0.013 m³/s) Sept. 22, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,030 ft³/s (29.2 m³/s) at 1330 May 19, gage height, 4.73 ft (1.442 m); minimum daily, 3.1 ft³/s (0.088 m³/s) Oct. 3, 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	19	15	15	15	19	23	369	414	58	40	17
2	3.3	18	15	15	15	19	22	375	309	61	36	16
3	3.1	18	15	15	15	19	22	344	276	54	34	15
4	3.1	17	15	15	15	19	24	299	246	47	30	15
5	3.3	18	15	15	15	19	26	344	251	50	28	14
6	9.1	17	15	15	16	20	28	486	272	46	27	14
7	11	15	14	15	16	21	28	628	302	44	27	14
8	11	16	13	15	16	21	30	450	504	44	25	13
9	11	16	13	15	16	21	32	288	649	52	26	12
10	12	16	14	15	16	21	35	249	378	40	29	12
11	12	16	15	15	16	21	35	228	222	36	31	12
12	12	16	15	15	17	21	35	193	175	35	27	13
13	11	15	15	15	17	21	37	190	163	51	25	14
14	11	13	15	15	18	21	40	265	176	63	25	14
15	11	11	15	15	18	21	45	356	190	78	26	13
16	12	11	15	15	18	21	50	628	193	73	27	13
17	12	12	15	15	18	22	60	684	173	85	29	13
18	13	13	15	15	18	22	70	780	147	82	28	13
19	12	13	15	15	18	22	80	860	145	83	27	12
20	12	14	15	15	18	22	120	852	145	69	32	12
21	14	14	15	15	18	22	220	812	89	65	43	12
22	17	14	15	15	19	22	375	804	59	66	37	13
23	22	14	15	15	19	22	397	756	49	58	29	13
24	20	14	15	15	19	22	558	748	47	57	25	12
25	21	14	15	15	19	22	594	740	44	65	23	12
26	21	13	15	15	19	23	406	726	45	52	21	13
27	19	13	15	15	19	25	352	719	43	52	19	14
28	18	13	15	15	19	25	372	740	45	53	18	14
29	19	14	15	15	---	24	297	876	48	51	18	14
30	19	15	15	15	---	24	322	748	48	44	18	14
31	19	---	15	15	---	24	---	621	---	41	18	---
TOTAL	397.4	442	459	465	482	668	4735	17158	5847	1755	848	402
MEAN	12.8	14.7	14.8	15.0	17.2	21.5	158	553	195	56.6	27.4	13.4
MAX	22	19	15	15	19	25	594	876	649	85	43	17
MIN	3.1	11	13	15	15	19	22	190	43	35	18	12
AC-FT	788	877	910	922	956	1320	9390	34030	11600	3480	1680	797

CAL YR 1978 TOTAL 23381.8 MEAN 64.1 MAX 576 MIN 3.1 AC-FT 46380
WTR YR 1979 TOTAL 33658.4 MEAN 92.2 MAX 876 MIN 3.1 AC-FT 66760

NOTE.--NO GAGE-HEIGHT RECORD DEC. 5 TO APR. 10.

06611300 GRIZZLY CREEK NEAR HEBRON, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1976 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
OCT 05...	1415	3.1	350	8.2	11.5	9.0	150	0	40	12	23	.8
MAR 20...	1230	24	240	7.3	.0	6.4	110	0	31	8.6	12	.5
APR 26...	1345	355	280	7.7	5.5	9.0	97	6	24	8.9	19	.8
MAY 23...	1630	810	140	7.9	15.5	8.4	62	11	18	4.1	7.7	.4
JUN 12...	1430	181	230	7.9	17.0	7.2	89	0	23	7.7	14	.6
JUL 18...	1310	81	280	7.6	16.0	--	110	0	28	8.8	19	.8
AUG 28...	1315	18	200	7.8	14.0	8.5	83	1	23	6.3	10	.5

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)
OCT 05...	3.3	190	0	160	37	3.2	.2	13	226	.31	1.90
MAR 20...	2.6	140	0	110	19	1.9	.2	22	167	.23	10.8
APR 26...	4.1	110	0	90	42	3.5	.2	13	171	.23	164
MAY 23...	2.1	62	0	51	11	1.1	.2	10	85	.12	186
JUN 12...	2.2	110	0	90	17	1.8	.2	15	135	.18	66.0
JUL 18...	2.1	150	--	120	21	2.7	.2	22	178	.24	38.9
AUG 28...	2.4	100	.0	82	17	1.5	.2	22	132	.18	6.56

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT 05...	.00	.00	.35	.35	.020	.01	--	--	140	--	120
MAR 20...	.08	--	--	--	--	.04	30	650	200	80	70
APR 26...	.17	--	--	--	--	.16	60	1900	280	150	90
MAY 23...	.01	--	--	--	--	.05	50	1200	220	40	20
JUN 12...	.00	--	--	--	--	.00	0	1300	170	70	40
JUL 18...	.00	--	--	--	--	.01	30	900	260	80	50
AUG 28...	.01	--	--	--	--	.07	30	680	320	30	30

06611300 GRIZZLY CREEK NEAR HEBRON, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)
OCT												
05...	1415	--	--	--	0	--	0	--	1	--	--	--
MAY												
23...	1630	640	30	1	1	0	0	4	0	5	0	.0
JUL												
18...	1310	270	30	--	--	--	--	--	--	63	40	--

DATE	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)
OCT											
05...	.0	--	0	--	2	--	0	--	--	--	5.8
MAY											
23...	.0.	0	0	6	3	0	0	10	10	11	11
JUL											
18...	--	--	--	--	--	--	--	20	100	12	12

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
MAR						JUN					
20...	1230	24	31	2.0	48	12...	1430	181	36	18	95
APR						JUL					
26...	1345	355	75	72	76	18...	1310	81	11	2.4	--
MAY						AUG					
23...	1630	810	21	46	76	20...	1315	18	10	.50	--

06611800 LITTLE GRIZZLY CREEK ABOVE COALMONT, CO

LOCATION.--Lat 40°34'24", long 106°30'34", in SW¼SE¼ sec.17, T.7 N., R.81 W., Jackson County, Hydrologic Unit 10180001, on left bank 1.7 mi (2.7 km) below Antelope Ditch, 3.6 mi (5.7 km) west of Coalmont, and 5.6 mi (9.0 km) southwest of Hebron.

DRAINAGE AREA.--35.4 mi^2 (91.7 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1976 to September 1979 (discontinued).

REVISED RECORDS.--WDR CO-78-1: 1977.

GAGE.--Water-stage recorder. Altitude of gage is 8,200 ft (2,499 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Natural flow of stream affected by numerous diversions for hay meadows and return flow from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 394 ft^3/s (11.2 m^3/s) May 28, 1979, gage height, 4.68 ft (1.426 m); minimum daily, 1.2 ft^3/s (0.034 m^3/s) Jan. 9, 10, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 394 ft^3/s (11.2 m^3/s) at 1300 May 28, gage height, 4.68 ft (1.426 m); minimum daily, 1.3 ft^3/s (0.037 m^3/s) Sept. 23, 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.8	5.1	4.0	4.5	4.5	5.0	5.5	128	168	72	14	2.2
2	3.5	4.8	4.5	4.5	4.5	5.0	5.5	131	155	61	13	2.2
3	3.3	4.8	4.5	4.5	4.5	5.0	5.5	118	162	53	12	2.5
4	3.0	4.7	4.0	4.5	4.5	5.0	5.0	128	178	42	11	3.0
5	3.0	4.6	4.0	4.5	4.5	5.0	5.5	187	190	34	9.7	3.2
6	3.0	4.4	4.0	4.5	4.5	5.0	5.5	215	205	29	9.3	3.1
7	3.1	4.2	4.0	4.5	4.5	5.0	6.0	166	294	29	8.9	3.2
8	2.9	4.5	4.0	4.5	4.5	5.0	6.0	110	227	23	8.3	3.2
9	3.0	4.3	4.5	4.5	4.5	5.0	6.0	91	173	19	8.4	3.1
10	3.0	4.2	4.5	4.5	4.5	5.0	6.5	79	99	17	9.2	2.9
11	3.2	4.0	5.0	4.5	5.0	5.0	7.0	68	91	15	9.1	3.1
12	2.9	4.0	5.0	4.5	5.0	5.0	7.0	63	111	13	7.5	3.0
13	2.9	3.5	5.0	4.5	5.0	5.5	7.0	82	143	12	7.7	3.2
14	2.7	3.0	5.0	4.5	5.0	5.5	8.0	134	166	11	6.9	3.2
15	2.9	2.5	5.0	4.5	5.0	5.5	10	209	167	11	7.2	3.8
16	3.1	2.5	5.0	4.5	5.0	5.5	12	251	135	14	8.8	3.8
17	3.1	2.7	5.0	4.5	5.0	6.0	15	268	126	18	7.7	3.7
18	3.4	3.0	5.0	4.5	5.0	6.0	20	291	115	30	6.9	2.8
19	3.6	3.5	5.0	4.5	5.0	6.0	30	306	112	34	6.0	1.8
20	3.5	3.5	5.0	4.5	5.0	6.0	20	300	97	30	7.2	1.7
21	4.4	4.0	5.0	4.5	5.0	6.0	20	301	72	27	12	1.9
22	11	4.0	5.0	4.5	5.0	6.0	45	304	77	27	6.5	1.8
23	8.5	4.0	5.0	4.5	5.0	6.0	100	309	93	28	5.0	1.3
24	7.8	4.0	5.0	4.5	5.0	6.0	91	314	100	29	4.2	1.3
25	8.2	4.0	5.0	4.5	5.0	6.0	81	326	101	26	3.9	2.6
26	5.8	3.5	5.0	4.5	5.0	6.0	90	318	94	22	3.6	3.8
27	5.6	3.5	5.0	4.5	5.0	6.0	100	318	95	21	3.3	6.5
28	5.6	3.5	5.0	4.5	5.0	6.0	98	371	91	21	3.0	6.0
29	5.8	3.5	5.0	4.5	---	6.0	105	364	85	17	3.0	6.1
30	5.5	3.5	5.0	4.5	---	6.0	123	319	77	15	3.0	5.9
31	5.2	---	4.5	4.5	---	6.0	---	218	---	12	2.6	---
TOTAL	136.3	115.3	146.5	139.5	135.0	172.0	1045.5	6787	3999	812	228.9	95.9
MEAN	4.40	3.84	4.73	4.50	4.82	5.55	34.9	219	133	26.2	7.38	3.20
MAX	11	5.1	5.0	4.5	5.0	6.0	123	371	294	72	14	6.5
MIN	2.7	2.5	4.0	4.5	4.5	5.0	5.0	63	72	11	2.6	1.3
AC-FT	270	229	291	277	268	341	2070	13460	7930	1610	454	190

CAL YR 1978 TOTAL 15727.1 MEAN 43.1 MAX 245 MIN 2.5 AC-FT 31190
WTR YR 1979 TOTAL 13812.9 MEAN 37.8 MAX 371 MIN 1.3 AC-FT 27400

NOTE.--NO GAGE-HEIGHT RECORD DEC. 8 TO APR. 9.

06611800 LITTLE GRIZZLY CREEK ABOVE COALMONT, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1976 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNESIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORPTION RATIO
OCT 05...	1215	3.0	210	7.8	7.5	8.5	96	0	30	5.2	2.1	.1
MAR 20...	1615	5.3	200	7.1	.0	8.9	100	14	33	5.3	4.5	.2
APR 25...	1600	95	170	7.5	1.0	10.2	71	15	22	3.8	5.6	.3
MAY 24...	1130	317	90	7.5	8.5	9.4	42	12	14	1.7	2.6	.2
JUN 12...	1540	111	90	7.6	14.5	8.0	41	7	13	2.0	3.0	.2
JUL 19...	1230	35	170	8.2	15.0	--	76	1	24	3.8	4.3	.2
AUG 28...	1830	2.9	220	7.4	14.5	7.8	110	0	33	5.8	7.8	.3

DATE	POTASSIUM, DIS-SOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)
OCT 05...	1.3	120	0	98	9.7	1.0	.1	9.2	118	.16	.96
MAR 20...	1.1	110	0	90	16	1.1	.2	12	128	.17	1.83
APR 25...	2.6	68	0	56	19	1.9	.1	8.1	98	.13	25.1
MAY 24...	1.1	36	0	30	6.1	.6	.1	5.8	50	.07	42.8
JUN 12...	.8	41	0	34	6.9	.7	.1	5.8	53	.07	15.9
JUL 19...	1.0	91	0	75	6.8	.9	.2	9.0	96	.13	9.07
AUG 28...	1.4	130	0	110	12	1.0	.2	9.3	135	.18	1.06

DATE	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITROGEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS, DIS-SOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DIS-SOLVED (UG/L AS MN)
OCT 05...	.00	.01	.53	.54	.020	.01	--	--	580	--	100
MAR 20...	.08	--	--	--	--	.02	30	830	400	100	100
APR 25...	.24	--	--	--	--	.13	50	3200	260	160	90
MAY 24...	.03	--	--	--	--	.01	20	790	190	20	20
JUN 12...	.00	--	--	--	--	.00	6	650	200	30	30
JUL 19...	.01	--	--	--	--	.01	30	1400	350	150	110
AUG 28...	.05	--	--	--	--	.01	30	1100	420	120	120

06611800 LITTLE GRIZZLY CREEK ABOVE COALMONT, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)
OCT 05...	1215	--	--	--	0	--	1	--	1	--	--	--
MAY 24...	1130	510	50	1	1	0	3	4	0	7	9	.0
JUL 19...	1230	290	40	--	--	--	--	--	--	57	63	--

DATE	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)
OCT 05...	.0	--	0	--	3	--	0	--	--	--	4.1
MAY 24...	.1	2	0	7	0	0	0	10	10	9.2	8.8
JUL 19...	--	--	--	--	--	--	--	10	7	10	9.3

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 05...	1215	3.0	5	.04	--
MAR 20...	1615	5.3	21	.30	57
APR 25...	1600	95	130	35	90
MAY 24...	1130	317	33	28	52
JUN 12...	1545	111	118	35	--
JUL 19...	1230	35	19	1.8	--
AUG 28...	1830	2.9	19	.15	--

06611900 LITTLE GRIZZLY CREEK ABOVE HEBRON, CO

LOCATION.--Lat 40°37'57", long 106°26'58", in NW¼NE¼ sec.14, T.7 N., R.81 W., Jackson County, Hydrologic Unit 10180001, on right bank 0.7 mi (1.2 km) above mouth of Chedsey Creek, 1.4 mi (2.3 km) northwest of Coalmont, and 2.5 mi (4.0 km) southwest of Hebron.

DRAINAGE AREA.--52.2 mi² (135 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1976 to current year.

REVISED RECORDS.--WDR CO-78-1: 1977.

GAGE.--Water-stage recorder. Altitude of gage is 8,120 ft (2,475 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Natural flow of stream affected by numerous diversions for hay meadows and return flow from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 462 ft³/s (13.1 m³/s) May 28, 1979, gage height, 4.47 ft (1.362 m); minimum daily, 0.65 ft³/s (0.018 m³/s) Sept. 25, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 462 ft³/s (13.1 m³/s) at 2100 May 28, gage height, 4.47 ft (1.362 m), minimum daily, 0.65 ft³/s (0.018 m³/s) Sept. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	5.0	4.5	4.0	4.0	5.0	5.5	179	208	103	15	2.0
2	3.6	5.0	4.5	4.0	4.0	5.0	5.5	176	160	96	14	1.8
3	3.2	5.0	4.0	4.0	4.0	5.0	5.0	160	162	85	13	1.7
4	3.0	4.7	4.0	4.0	4.0	5.0	5.0	147	180	73	12	1.8
5	2.8	4.5	4.0	4.0	4.0	5.0	5.5	202	198	71	12	2.0
6	3.0	4.0	3.5	4.0	4.0	5.0	5.5	277	219	63	10	2.2
7	3.0	4.5	3.5	4.0	4.0	5.0	6.0	234	278	64	10	2.2
8	3.0	5.0	3.5	4.0	4.0	5.0	6.0	193	333	53	8.9	2.3
9	3.0	5.0	4.0	4.0	4.0	5.0	6.0	120	306	47	8.9	2.3
10	3.0	5.0	4.0	4.0	4.0	5.0	6.0	108	162	41	10	2.3
11	3.2	5.0	4.5	4.0	4.5	5.0	6.0	91	123	31	9.7	2.4
12	3.2	4.5	4.5	4.0	4.5	5.0	6.0	82	133	27	8.6	2.4
13	3.0	4.0	4.5	4.0	5.0	5.5	6.5	85	160	23	7.9	2.6
14	3.0	3.5	4.5	4.0	5.0	5.5	7.0	120	195	22	7.2	2.8
15	3.2	3.0	4.5	4.0	5.0	5.5	8.0	200	208	19	7.5	3.2
16	3.2	3.0	4.5	4.0	5.0	5.5	10	262	187	20	8.2	3.4
17	3.4	3.2	4.5	4.0	5.0	6.0	15	282	160	21	8.6	2.8
18	3.6	3.5	4.5	4.0	5.0	6.0	25	302	147	29	7.2	2.8
19	3.9	4.0	4.5	4.0	5.0	6.0	50	318	135	35	6.7	2.3
20	4.1	4.0	4.5	4.0	5.0	6.0	35	318	141	32	6.4	1.8
21	4.1	4.5	4.5	4.0	5.0	6.0	35	311	88	29	10	1.4
22	8.6	4.5	4.5	4.0	5.0	6.0	90	316	93	30	7.2	1.1
23	9.3	4.5	4.5	4.0	5.0	6.0	90	318	117	33	5.3	.90
24	7.9	4.5	4.5	4.0	5.0	6.0	147	323	138	36	4.3	.90
25	7.5	4.5	4.5	4.0	5.0	6.0	132	336	145	31	3.6	.65
26	6.7	4.0	4.5	4.0	5.0	6.0	112	360	140	29	3.2	1.0
27	5.3	4.0	4.5	4.0	5.0	6.0	132	330	136	26	2.6	2.4
28	5.3	4.0	4.5	4.0	5.0	6.0	155	374	130	26	2.4	4.3
29	5.3	4.0	4.5	4.0	---	6.0	147	437	112	22	2.3	3.6
30	5.3	4.0	4.5	4.0	---	6.0	176	360	104	19	2.3	3.6
31	5.3	---	4.0	4.0	---	6.0	---	283	---	17	2.3	---
TOTAL	135.9	127.9	133.5	124.0	129.0	172.0	1400.5	7564	4998	1253	237.3	66.95
MEAN	4.38	4.26	4.31	4.00	4.61	5.55	46.7	244	167	40.4	7.65	2.23
MAX	9.3	5.0	4.5	4.0	5.0	6.0	176	437	333	103	15	4.3
MIN	2.8	3.0	3.5	4.0	4.0	5.0	5.0	82	88	17	2.3	.65
AC-FT	270	254	265	246	256	341	2780	15000	9910	2490	471	133

CAL YR 1978 TOTAL 19064.90 MEAN 52.2 MAX 330 MIN 2.8 AC-FT 37820
WTR YR 1979 TOTAL 16342.05 MEAN 44.8 MAX 437 MIN .65 AC-FT 32410

NOTE.--NO GAGE-HEIGHT RECORD DEC. 8 TO APR. 19.

06611900 LITTLE GRIZZLY CREEK ABOVE HEBRON, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1976 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO
OCT 05...	0945	2.7	220	7.8	4.0	8.8	96	0	29	5.8	8.7	.4
MAR 20...	1500	6.7	250	7.0	.0	6.5	110	12	33	6.9	12	.5
APR 26...	0930	73	235	7.6	1.5	9.6	82	20	22	6.5	15	.7
MAY 24...	1000	306	120	7.4	11.0	8.0	55	11	17	3.0	4.2	.2
JUN 11...	1015	130	180	7.9	17.0	8.0	55	0	21	.5	9.0	.5
JUL 18...	1420	37	220	8.3	17.0	--	110	2	32	6.9	9.0	.4
AUG 28...	1600	2.4	230	8.2	19.0	9.2	110	8	32	6.5	10	.4

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)
OCT 05...	1.5	120	0	98	14	1.6	.2	7.1	128	.17	.93
MAR 20...	1.6	120	0	98	32	2.0	.2	12	160	.22	2.89
APR 26...	3.4	75	0	62	42	4.9	.2	8.8	142	.19	28.0
MAY 24...	1.7	54	0	44	11	.8	.2	6.3	72	.10	59.5
JUN 11...	1.3	73	0	60	19	1.1	.2	6.4	95	.13	33.3
JUL 18...	1.1	130	0	110	18	1.9	.2	9.4	145	.20	14.5
AUG 28...	1.4	120	0	98	24	2.3	.3	5.4	141	.19	.91

DATE	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS, DISSOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P)	BORON, DISSOLVED (UG/L AS B)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)
OCT 05...	.10	.01	.30	.31	.020	.01	--	--	380	--	60
MAR 20...	.20	--	--	--	--	.03	30	990	390	110	110
APR 26...	.22	--	--	--	--	.13	60	1600	340	160	140
MAY 24...	.09	--	--	--	--	.02	30	1200	210	60	20
JUN 11...	.01	--	--	--	--	.00	20	910	220	60	50
JUL 18...	.23	--	--	--	--	.01	30	1100	350	90	80
AUG 28...	.01	--	--	--	--	.01	30	680	170	40	40

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06611900 LITTLE GRIZZLY CREEK ABOVE HEBRON, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)
OCT 05...	0945	--	20	--	0	--	0	--	2	--	--	--
MAY 24...	1000	580	40	1	1	0	3	7	0	6	0	.0
JUL 18...	1420	290	50	--	--	--	--	--	--	53	100	--

DATE	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)
OCT 05...	.0	--	0	--	--	--	0	--	--	--	5.2
MAY 24...	.0	1	0	6	0	0	0	10	10	12	11
JUL 18...	--	--	--	--	--	--	--	--	430	11	10

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 05...	0945	2.7	2	.01	0	MAY 24...	1000	306	25	21	72
MAR 20...	1500	6.7	28	.51	64	JUN 11...	1815	123	146	48	28
APR 26...	0930	73	56	11	66	JUL 18...	1420	37	314	31	--

06614800 MICHIGAN RIVER NEAR CAMERON PASS, CO

LOCATION.--Lat 40°29'46", long 105°51'52", in S½ sec.12, T.6 N., R.76 W. (unsurveyed), Jackson County, Hydrologic Unit 10180001, on right bank 500 ft (152 m) upstream from Michigan ditch, 2.2 mi (3.5 km) southeast of Cameron Pass, 8 mi (13 km) east of Gould, and 27 mi (43 km) southeast of Walden.

DRAINAGE AREA.--1.53 mi^2 (3.96 km^2).

PERIOD OF RECORD.--October 1973 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 10,390 ft (3,167 m), from topographic map.

REMARKS.--Records good except those for winter period, which are fair. No diversion above station. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--6 years, 2.85 ft^3/s (0.081 m^3/s), 2,060 acre-ft/yr (2.54 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 44 ft^3/s (1.25 m^3/s) June 18, 1974, gage height, 3.53 ft (1.076 m); minimum daily, 0.12 ft^3/s (0.003 m^3/s) Jan. 12, 13, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 38 ft^3/s (1.08 m^3/s) at 1915 June 28, gage height, 3.44 ft (1.049 m), only peak above base of 35 ft^3/s (0.99 m^3/s); minimum daily, 0.12 ft^3/s (0.003 m^3/s) Jan. 12, 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.62	.30	.21	.24	.22	.25	.20	.37	7.8	23	4.2	3.4
2	.58	.30	.22	.24	.22	.22	.20	.32	8.0	21	3.8	3.1
3	.56	.25	.23	.24	.22	.23	.20	.29	9.1	19	3.4	2.7
4	.52	.25	.21	.24	.22	.23	.20	.30	8.8	19	3.1	2.4
5	.50	.25	.26	.23	.22	.23	.18	.35	10	15	2.9	2.1
6	.50	.22	.28	.22	.20	.23	.19	.44	12	15	2.8	1.9
7	.47	.20	.27	.17	.20	.24	.19	.49	16	14	3.2	1.7
8	.46	.18	.25	.16	.22	.20	.19	.43	12	14	3.5	1.5
9	.44	.18	.25	.15	.20	.20	.20	.41	9.0	13	3.4	1.3
10	.43	.18	.23	.14	.20	.20	.20	.33	7.8	12	4.9	1.3
11	.41	.18	.22	.14	.20	.21	.20	.33	8.5	12	3.8	1.3
12	.39	.18	.22	.12	.20	.20	.20	.27	11	11	3.3	1.2
13	.35	.18	.22	.12	.20	.20	.20	.26	15	11	4.5	1.1
14	.35	.18	.22	.14	.22	.20	.20	.32	19	11	5.8	1.0
15	.35	.18	.25	.14	.22	.20	.22	.57	23	10	5.5	.85
16	.34	.19	.23	.15	.22	.20	.28	.90	24	10	6.1	.77
17	.30	.20	.22	.17	.24	.20	.34	1.2	24	10	6.6	.63
18	.31	.20	.22	.18	.25	.20	.34	1.5	23	9.7	8.2	.55
19	.32	.20	.22	.18	.25	.20	.37	2.0	18	8.9	10	.51
20	.33	.18	.24	.20	.29	.20	.37	2.5	16	8.8	9.8	.77
21	.33	.17	.29	.20	.29	.20	.37	3.0	17	9.1	8.6	.73
22	.50	.18	.29	.20	.29	.18	.35	3.4	18	8.5	7.7	.57
23	.45	.19	.29	.21	.25	.18	.37	4.5	18	7.9	7.2	.50
24	.40	.20	.28	.22	.25	.20	.39	5.3	20	9.2	6.8	.52
25	.45	.18	.28	.22	.25	.19	.41	5.5	22	6.9	6.3	.51
26	.40	.17	.28	.23	.29	.19	.39	7.0	23	6.0	5.8	.57
27	.40	.17	.26	.22	.29	.20	.37	7.6	26	5.9	5.3	.54
28	.35	.18	.26	.22	.29	.20	.37	11	28	6.0	4.8	.46
29	.35	.18	.26	.22	---	.20	.37	13	28	5.4	4.4	.42
30	.35	.18	.26	.22	---	.20	.37	11	24	4.9	4.2	.39
31	.30	---	.24	.20	---	.20	---	8.9	---	4.6	3.8	---
TOTAL	12.81	5.98	7.66	5.93	6.61	6.38	8.43	93.78	506.0	341.8	63.7	35.29
MEAN	.41	.20	.25	.19	.24	.21	.28	3.03	16.9	11.0	5.28	1.18
MAX	.62	.30	.29	.24	.29	.25	.41	13	28	23	10	3.4
MIN	.30	.17	.21	.12	.20	.18	.18	.26	7.8	4.6	2.8	.39
AC-FT	25	12	15	12	13	13	17	186	1000	678	325	70

CAL YR 1978 TOTAL 1154.03 MEAN 3.16 MAX 34 MIN .17 AC-FT 2290
WTR YR 1979 TOTAL 1194.37 MEAN 3.27 MAX 28 MIN .12 AC-FT 2370

06616000 NORTH FORK MICHIGAN RIVER NEAR GOULD, CO

LOCATION.--Lat 40°32'58", long 106°01'14", in SE¼NW¼ sec.27, T.7 N., R.77 W., Jackson County, Hydrologic Unit 10180001, on left bank 25 ft (8 m) upstream from county road bridge, 0.7 mi (1.1 km) downstream from dam on recreation lake, 1.6 mi (2.6 km) north of Gould, 2.8 mi (4.5 km) upstream from mouth, and 19 mi (31 km) southeast of Walden.

DRAINAGE AREA.--21.2 mi² (54.9 km²).

PERIOD OF RECORD.--October 1950 to current year.

REVISED RECORDS.--WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 8,793 ft (2,680.1 m), National Geodetic Vertical Datum of 1929. Prior to Oct. 6, 1964, at site 0.6 mi (1.0 km) upstream at datum 55.00 ft (16.764 m) higher. Oct. 6, 1964, to Aug. 10, 1965, at site 0.2 mi (0.3 km) upstream at different datum.

REMARKS.--Records good except those for winter period, which are poor. One small diversion above station to Canadian River drainage. Slight natural regulation by recreation lake, capacity, 1,250 acre-ft (1.54 hm³), since Dec. 11, 1963. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--29 years, 17.2 ft³/s (0.487 m³/s), 12,460 acre-ft/yr (15.4 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 290 ft³/s (8.21 m³/s) May 25, 1961, gage height, 3.15 ft (0.960 m), site and datum then in use, from rating curve extended above 160 ft³/s (4.5 m³/s); maximum gage height, 5.23 ft (1.594 m) May 28, 1979; no flow Dec. 11, 1963, to Apr. 30, 1964, caused by filling recreation lake upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 253 ft³/s (7.16 m³/s) at 2000 May 28, gage height, 5.23 ft (1.594 m), only peak above base of 100 ft³/s (2.8 m³/s); minimum daily, 0.30 ft³/s (0.008 m³/s) Nov. 8-12, 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	3.0	2.0	2.5	3.0	3.0	3.0	15	74	36	5.2	7.8
2	5.5	3.0	2.0	2.5	3.0	3.0	3.0	17	67	34	4.9	7.2
3	5.7	2.9	2.0	2.5	3.0	3.0	3.0	17	70	31	4.5	6.8
4	5.8	2.5	2.2	2.5	3.0	3.0	3.0	16	78	29	4.7	6.5
5	5.8	.38	2.5	2.5	3.0	3.0	3.0	24	85	26	4.4	6.2
6	5.8	.34	2.5	2.5	3.0	3.0	3.0	39	96	23	4.3	6.0
7	5.8	.34	2.5	2.5	3.0	3.0	3.0	40	116	22	4.1	5.7
8	5.8	.30	2.5	2.5	3.0	3.0	3.0	26	101	20	4.5	5.4
9	5.8	.30	2.5	2.5	3.0	3.0	3.0	19	90	19	7.6	5.3
10	5.8	.30	2.5	2.5	3.0	3.0	3.0	15	79	17	9.1	5.3
11	5.8	.30	2.5	2.5	3.0	3.0	3.0	13	76	15	7.5	5.6
12	5.7	.30	2.5	2.5	3.0	3.0	3.0	12	77	15	5.7	5.5
13	5.5	.50	2.5	2.5	3.0	3.0	3.1	12	87	13	5.9	5.2
14	6.0	.30	2.5	2.5	3.0	3.0	4.3	21	92	12	14	5.1
15	6.0	.68	2.5	2.5	3.0	3.0	4.2	43	94	11	13	4.8
16	5.0	2.7	2.5	2.7	3.0	3.0	4.1	68	91	11	17	4.7
17	3.2	2.5	2.5	3.0	3.0	3.0	4.2	83	82	11	15	4.6
18	3.2	2.3	2.5	3.0	3.0	3.0	4.6	97	75	12	13	4.1
19	3.0	2.3	2.5	3.0	3.0	3.0	8.4	113	76	11	21	4.0
20	2.7	2.5	2.5	3.0	3.0	3.0	12	125	70	9.8	31	4.1
21	2.7	2.5	2.5	3.0	3.0	3.0	13	117	61	8.8	29	4.4
22	2.7	2.5	2.5	3.0	3.0	3.0	13	109	53	8.7	19	4.3
23	2.7	2.5	2.5	3.0	3.0	3.0	12	107	49	8.3	15	4.4
24	2.7	2.5	2.5	3.0	3.0	3.0	14	123	47	9.5	13	4.3
25	2.7	2.5	2.5	3.0	3.0	3.0	15	125	45	9.2	12	4.3
26	2.7	2.3	2.5	3.0	3.0	3.0	13	132	43	7.9	11	4.2
27	2.7	2.0	2.5	3.0	3.0	3.0	13	137	41	7.2	10	4.4
28	2.9	2.0	2.5	3.0	3.0	3.0	13	190	39	7.4	9.2	4.5
29	2.9	2.0	2.5	3.0	---	3.0	12	174	37	6.7	8.7	4.5
30	3.0	2.0	2.5	3.0	---	3.0	14	130	35	5.9	8.2	4.5
31	3.0	---	2.5	3.0	---	3.0	---	94	---	5.5	8.1	---
TOTAL	134.0	50.54	75.7	85.2	84.0	93.0	212.9	2253	2126	462.9	339.6	153.7
MEAN	4.32	1.68	2.44	2.75	3.00	3.00	7.10	72.7	70.9	14.9	11.0	5.12
MAX	6.0	3.0	2.5	3.0	3.0	3.0	15	190	116	36	31	7.8
MIN	2.7	.30	2.0	2.5	3.0	3.0	3.0	12	35	5.5	4.1	4.0
AC-FT	266	100	150	169	167	184	422	4470	4220	918	674	305

CAL YR 1978 TOTAL 6845.54 MEAN 18.8 MAX 174 MIN .30 AC-FT 13580
WTR YR 1979 TOTAL 6070.54 MEAN 16.6 MAX 190 MIN .30 AC-FT 12040

NOTE.--NO GAGE-HEIGHT RECORD DEC. 2 TO APR. 11.

06619400 CANADIAN RIVER NEAR LINDLAND, CO

LOCATION.--Lat 40°41'43", long 106°03'56", in NE¼NE¼ sec.6, T.8 N., R.77 W., Jackson County, Hydrologic Unit 10180001, on right bank 1.1 mi (1.8 km) below mouth of Muddy Creek, 8.3 mi (13.4 km) north of Lindland, and 12 mi (19.3 km) east of Walden.

DRAINAGE AREA.--44.0 mi² (114 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 8,150 ft (2,484 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Natural flow of stream affected by numerous diversions for irrigation of hay meadows and return flow from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 177 ft³/s (5.01 m³/s) June 11, 1978, gage height, 4.18 ft (1.274 m); maximum gage height, 4.49 ft (1.369 m), May 20, 1978; minimum daily discharge, 3.4 ft³/s (0.096 m³/s) Sept. 7, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 110 ft³/s (3.12 m³/s) at 0600 May 29, gage height, 2.94 ft (0.896 m), maximum gage height, 3.31 ft (1.009 m) at 1630 Apr 18, backwater from ice; minimum daily discharge, 3.5 ft³/s (0.099 m³/s) Dec. 8, 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.2	7.3	4.5	4.0	4.0	4.0	4.0	35	61	36	16	17
2	6.6	5.9	4.5	4.0	4.0	4.0	4.0	37	51	27	15	16
3	5.9	5.9	4.0	4.0	4.0	4.0	4.0	39	37	23	14	15
4	5.9	5.9	4.0	4.0	4.0	4.0	4.0	30	40	22	12	14
5	6.2	5.9	4.0	4.0	4.0	4.0	4.0	46	48	20	12	14
6	6.6	5.5	4.0	4.0	4.0	4.0	4.5	53	51	19	11	13
7	6.6	5.5	4.0	4.0	4.0	4.0	5.0	43	55	34	11	12
8	6.9	5.7	3.5	4.0	4.0	4.0	5.5	35	75	29	9.1	12
9	6.2	5.7	3.5	4.0	4.0	4.0	6.0	33	83	25	8.7	11
10	6.6	5.7	4.0	4.0	4.0	4.0	7.0	29	61	26	13	11
11	6.6	5.5	4.0	4.0	4.0	4.0	7.0	25	43	25	12	11
12	6.6	5.5	4.0	4.0	4.0	4.0	6.0	28	39	25	9.4	11
13	6.2	5.0	4.0	4.0	4.0	4.0	6.0	25	48	26	9.8	10
14	6.6	4.5	4.0	4.0	4.0	4.0	8.0	30	62	27	17	9.8
15	6.6	4.0	4.0	4.0	4.0	4.0	12	38	82	26	16	9.4
16	6.9	4.0	4.0	4.0	4.0	4.0	20	52	78	25	21	9.4
17	6.9	4.5	4.0	4.0	4.0	4.0	30	57	67	25	20	8.7
18	6.9	4.5	4.0	4.0	4.0	4.0	45	61	58	26	24	8.4
19	7.3	5.0	4.0	4.0	4.0	4.0	45	64	80	28	30	7.8
20	7.3	5.0	4.0	4.0	4.0	4.0	40	73	54	22	40	6.9
21	7.6	5.0	4.0	4.0	4.0	4.0	45	71	44	21	38	7.3
22	8.7	5.0	4.0	4.0	4.0	4.0	58	66	40	24	28	7.3
23	8.7	5.0	4.0	4.0	4.0	4.0	64	66	40	22	23	6.9
24	8.0	5.0	4.0	4.0	4.0	4.0	62	77	42	22	22	6.6
25	8.4	5.0	4.0	4.0	4.0	4.5	46	83	36	21	20	6.2
26	8.0	5.0	4.0	4.0	4.0	4.5	28	86	32	18	20	6.2
27	7.6	4.5	4.0	4.0	4.0	4.5	30	79	33	19	18	7.3
28	7.3	4.5	4.0	4.0	4.0	5.0	36	73	31	19	17	7.3
29	7.3	4.5	4.0	4.0	---	5.0	31	104	28	17	17	6.9
30	7.6	4.5	4.0	4.0	---	5.0	30	98	28	16	17	6.6
31	7.6	---	4.0	4.0	---	4.5	---	76	---	16	18	---
TOTAL	218.4	154.5	124.0	124.0	112.0	129.0	697.0	1712	1527	731	559.0	296.0
MEAN	7.05	5.15	4.00	4.00	4.00	4.16	23.2	55.2	50.9	23.6	18.0	9.87
MAX	8.7	7.3	4.5	4.0	4.0	5.0	64	104	83	36	40	17
MIN	5.9	4.0	3.5	4.0	4.0	4.0	4.0	25	28	16	8.7	6.2
AC-FT	433	306	246	246	222	256	1380	3400	3030	1450	1110	587

WTR YR 1979 TOTAL 6383.9 MEAN 17.5 MAX 104 MIN 3.5 AC-FT 12660

06619400 CANADIAN RIVER NEAR LINDLAND, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1977 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: April 1978 to current year.
WATER TEMPERATURE: April 1978 to current year.
SUSPENDED SEDIMENT DISCHARGE: May 1978 to current year.

INSTRUMENTATION.--Automatic pumping sediment sampler since May 1978. Water-quality monitor since April 1978.

REMARKS.--Daily maximum and minimum specific conductance data available in district office.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 293 micromhos April 21, 22; minimum, 74 micromhos May 27.
WATER TEMPERATURE: Maximum, 24°C June 12; minimum, 0.0°C most days during winter and spring months.
SEDIMENT CONCENTRATIONS: Maximum daily, 132 mg/L Apr. 23; minimum daily, 2 mg/L on several days during winter months.
SEDIMENT LOADS: Maximum daily, 27 tons (24 t) April 23; minimum daily, 0.02 ton (0.02 t) on many days during winter months.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT										
04...	1030	5.8	205	7.8	4.5	9.5	99	31	29	6.4
NOV										
01...	1410	7.4	210	7.7	4.0	10.0	97	37	29	6.0
DEC										
14...	0910	4.0	210	7.3	.5	9.2	100	43	30	6.0
JAN										
17...	1545	5.0	220	7.3	.0	7.5	--	--	--	--
FEB										
20...	1550	5.0	230	7.2	.0	10.0	110	48	34	6.9
MAR										
21...	1215	4.3	250	7.3	.0	10.2	120	54	37	7.5
APR										
18...	1715	56	195	8.4	.5	9.1	71	33	19	5.8
MAY										
09...	1250	30	190	7.4	1.5	10.8	81	35	23	5.6
JUN										
14...	1030	72	126	7.8	10.5	8.2	52	6	17	2.4
JUL										
17...	1615	26	140	7.4	16.5	--	65	11	19	4.3
AUG										
30...	1050	16	110	6.8	11.0	8.5	48	12	14	3.1
SEP										
18...	1205	7.6	150	7.2	10.5	8.4	68	16	20	4.5

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
OCT										
04...	5.8	.3	1.4	83	0	68	36	.7	.1	7.8
NOV										
01...	4.1	.2	1.2	73	0	60	39	.7	.1	9.1
DEC										
14...	4.4	.2	1.4	69	0	57	49	.7	.1	10
JAN										
17...	--	--	.9	72	0	59	47	.4	.1	--
FEB										
20...	4.2	.2	1.0	80	0	66	54	.6	.1	9.9
MAR										
21...	5.2	.2	1.7	84	0	69	56	.7	.1	10
APR										
18...	9.3	.5	5.8	47	0	39	47	2.6	.1	8.4
MAY										
09...	7.5	.4	1.7	56	0	46	37	1.4	.1	8.2
JUN										
14...	4.6	.3	1.2	56	0	46	12	.8	.1	7.0
JUL										
17...	3.2	.2	.9	66	0	54	12	.5	.1	8.4
AUG										
30...	2.5	.2	.9	44	0	36	14	.6	.1	6.2
SEP										
18...	3.6	.2	1.2	63	0	52	28	.6	.1	7.0

06619400 CANADIAN RIVER NEAR LINDLAND, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT										
04...	129	.18	2.04	.00	.01	40	830	470	40	20
NOV										
01...	125	.17	2.50	.01	.00	30	750	40	20	20
DEC										
14...	136	.19	1.47	.07	.00	40	600	280	60	60
JAN										
17...	--	--	--	.08	.00	30	660	--	60	--
FEB										
20...	151	.21	2.04	.07	.03	20	500	240	60	40
MAR										
21...	160	.22	1.86	.09	.03	20	560	310	60	50
APR										
18...	123	.17	18.6	.19	.14	70	2600	480	200	140
MAY										
09...	113	.15	9.15	.05	.01	20	740	290	60	50
JUN										
14...	73	.10	14.2	.00	.00	20	880	300	50	40
JUL										
17...	82	.11	5.76	.00	.01	20	970	450	60	40
AUG										
30...	66	.09	2.80	.01	.01	20	880	610	20	20
SEP										
18...	97	.13	1.99	.00	.03	20	910	610	30	20

DATE	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)
OCT											
04...	120	30	0	0	0	0	2	0	5	3	.0
DEC											
14...	100	10	--	--	--	--	--	--	4	3	--
JUN											
05...	--	--	--	1	0	1	3	0	--	--	--
JUL											
17...	270	30	--	--	--	--	--	--	61	62	--

DATE	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)
OCT											
04...	.0	3	0	3	3	0	0	10	0	4.0	4.1
DEC											
14...	--	--	--	--	--	--	--	20	<3	--	5.7
JUN											
05...	.0	0	0	2	0	--	0	--	--	9.5	9.8
JUL											
17...	--	--	--	--	--	--	--	10	<3	7.3	6.3

06619400 CANADIAN RIVER NEAR LINDLAND, CO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	212	216					---	187	86	155	139	106
2	213	218					---	186	91	155	141	109
3	210	213					---	173	120	157	144	113
4	217	216					---	193	133	161	147	119
5	215	209					---	160	140	165	146	122
6	216	199					---	142	137	166	148	127
7	217	202					---	144	166	163	---	130
8	213	216					---	168	157	167	137	134
9	215	214					---	193	169	169	137	133
10	215	214					---	214	163	192	144	132
11	219	213					---	222	162	196	133	134
12	221	212					---	222	165	191	139	135
13	217	215					---	229	159	178	140	140
14	216	223					---	187	143	156	129	148
15	221	223					---	158	136	153	131	151
16	217	239					---	134	133	152	144	155
17	220	234					---	121	133	145	148	147
18	223	238					223	113	137	149	189	143
19	222	238					247	112	147	153	181	150
20	218	236					258	105	142	142	147	150
21	221	240					239	102	147	142	117	143
22	233	---					255	101	153	152	109	136
23	218	---					245	100	152	144	100	133
24	224	---					233	96	148	148	97	136
25	220	---					212	91	151	144	99	140
26	214	---					238	89	157	146	102	145
27	223	---					239	83	154	149	106	161
28	222	---					208	90	155	152	105	168
29	218	---					209	84	156	145	106	169
30	215	---					203	82	155	146	104	171
31	217	---					---	84	---	139	107	---

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---	---	---	---	243	---					
2		---	---	---	---	---	---					
3		---	---	---	---	---	255					
4		---	---	---	---	243	---					
5		---	---	---	---	---	---					
6		---	---	---	---	247	260					
7		---	---	223	---	---	---					
8		---	---	---	---	254	276					
9		---	---	213	---	---	---					
10		---	222	---	---	---	---					
11		---	---	---	---	251	---					
12		---	229	---	---	---	---					
13		---	---	---	---	---	---					
14		---	229	---	---	250	---					
15		---	---	---	---	---	---					
16		---	---	---	---	255	---					
17		---	---	228	240	---	---					
18		---	---	---	241	---	203					
19		---	---	226	---	---	---					
20		---	226	---	230	252	---					
21		252	---	224	---	250	---					
22		---	---	---	---	---	---					
23		---	---	---	243	---	---					
24		224	---	227	---	---	---					
25		---	---	---	241	249	---					
26		---	---	229	---	---	---					
27		230	226	---	---	255	---					
28		---	---	---	---	---	---					
29		225	---	---	---	257	---					
30		---	---	---	---	---	---					
31		---	---	---	---	249	---					

06619400 CANADIAN RIVER NEAR LINDLAND, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	10.5	6.5	4.0	.5	.0	.0	.0	.0	.0	.0	.0	.0
2	11.0	7.0	5.0	.5	.0	.0	.0	.0	.0	.0	.0	.0
3	9.5	4.0	5.0	1.0	.0	.0	.0	.0	.0	.0	.0	.0
4	9.0	4.0	4.0	.5	.0	.0	.0	.0	.0	.0	.0	.0
5	8.5	3.5	4.5	1.0	.0	.0	.0	.0	.0	.0	.0	.0
6	8.5	3.0	2.5	.0	.0	.0	.0	.0	.0	.0	.0	.0
7	8.5	3.5	2.5	.0	.0	.0	.0	.0	.0	.0	.0	.0
8	8.5	4.0	4.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9	10.0	5.0	3.5	.0	.0	.0	.0	.0	.0	.0	.0	.0
10	10.0	5.0	2.5	.5	.0	.0	.0	.0	.0	.0	.0	.0
11	10.0	5.5	2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12	10.0	6.0	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0
13	8.0	4.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14	8.0	2.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15	8.5	3.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16	8.0	3.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17	6.5	3.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18	8.0	5.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19	8.5	3.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20	7.0	4.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
21	8.5	6.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
22	7.5	3.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
23	5.5	1.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
24	5.0	1.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
25	5.5	2.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
26	4.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
27	5.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
28	5.0	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
29	5.0	.5	.0	.0	.0	.0	.0	.0	---	---	.0	.0
30	4.0	1.0	.0	.0	.0	.0	.0	.0	---	---	.0	.0
31	4.5	.5	---	---	.0	.0	.0	.0	---	---	.0	.0

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	.0	.0	8.5	3.0	14.0	4.0	19.5	12.5	20.5	12.5	17.0	10.5
2	.0	.0	9.5	3.5	16.0	7.5	20.5	12.0	21.0	13.0	17.0	11.0
3	.0	.0	8.0	3.0	17.5	8.0	20.5	12.0	21.0	13.5	17.5	11.0
4	.0	.0	12.0	1.0	19.0	9.5	21.5	14.0	21.5	13.0	18.0	11.5
5	.0	.0	13.5	4.0	20.0	9.5	22.0	12.5	21.0	14.0	18.0	11.0
6	.0	.0	10.5	4.0	19.5	9.5	19.0	13.0	17.0	13.5	18.0	11.5
7	.0	.0	4.0	1.0	13.5	8.0	22.0	10.0	---	---	18.5	11.5
8	---	.0	4.5	.0	12.0	6.5	21.5	12.5	20.5	18.0	16.5	11.5
9	---	---	9.0	.5	11.5	3.0	21.5	12.0	19.5	14.5	17.0	11.0
10	---	---	6.0	1.0	20.0	3.0	20.5	12.0	21.5	15.0	16.0	12.0
11	---	---	7.5	1.0	22.0	8.0	22.0	11.5	20.0	13.0	16.5	11.0
12	---	---	7.5	.5	24.0	10.0	23.0	13.0	20.0	13.0	15.0	10.0
13	---	---	13.0	3.5	22.0	11.0	22.0	13.5	18.5	14.0	12.0	9.0
14	---	---	14.0	5.5	18.0	10.5	21.0	13.5	16.0	13.0	13.0	7.0
15	---	---	16.5	6.5	18.5	10.0	20.0	14.0	16.0	12.0	13.0	6.5
16	---	---	16.0	6.5	21.0	8.0	21.0	13.5	16.0	12.5	14.5	7.5
17	---	---	12.0	6.0	20.5	9.0	18.0	13.5	17.0	12.0	14.5	8.0
18	.5	.0	12.5	7.5	18.5	9.5	16.0	12.5	15.5	13.0	15.0	9.0
19	.5	.0	13.0	6.0	11.0	7.0	19.5	11.0	14.0	12.0	14.5	9.0
20	.5	.0	13.0	7.5	19.0	5.5	20.0	12.5	12.0	10.5	13.0	10.0
21	1.0	.0	12.5	6.5	22.0	9.0	20.0	13.5	12.5	9.5	12.5	7.5
22	1.5	.0	12.0	7.0	22.5	10.0	19.0	14.0	15.0	9.0	13.0	8.0
23	2.0	.5	14.5	6.5	22.5	11.0	19.0	13.0	14.5	10.0	13.0	8.5
24	5.5	.5	14.5	8.0	22.5	10.5	20.5	14.0	15.0	11.0	13.5	9.0
25	5.5	.5	12.0	8.5	21.0	11.0	21.0	13.5	14.0	10.5	13.5	9.5
26	8.0	.5	16.0	7.5	21.5	12.0	20.0	13.5	15.5	9.5	12.0	10.0
27	10.5	.5	15.5	9.0	22.5	11.5	20.0	13.0	16.0	10.5	12.5	8.5
28	8.0	1.5	13.0	10.0	23.0	12.5	22.0	14.5	17.0	11.0	12.0	7.5
29	9.5	.0	11.0	8.0	23.0	12.5	21.5	14.0	18.5	11.5	12.0	7.5
30	9.0	1.0	8.5	5.0	20.0	13.5	21.0	13.5	15.5	12.0	12.0	7.5
31	---	---	10.5	4.5	---	---	20.0	14.0	16.5	11.0	---	---

06619400 CANADIAN RIVER NEAR LINDLAND, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	6.2	5	.08	7.3	8	.16	4.5	---	.05
2	6.6	5	.09	5.9	8	.13	4.5	---	.05
3	5.9	5	.08	5.9	9	.14	4.0	---	.05
4	5.9	5	.08	5.9	8	.13	4.0	---	.05
5	6.2	5	.08	5.9	10	.16	4.0	---	.05
6	6.6	5	.09	5.5	11	.16	4.0	---	.05
7	6.6	5	.09	5.5	8	.12	4.0	---	.05
8	6.9	5	.09	5.7	8	.12	3.5	---	.05
9	6.2	5	.08	5.7	9	.14	3.5	---	.05
10	6.6	5	.09	5.7	8	.12	4.0	7	.08
11	6.6	5	.09	5.5	10	.15	4.0	---	.04
12	6.6	5	.09	5.5	9	.13	4.0	2	.02
13	6.2	5	.08	5.0	12	.16	4.0	---	.02
14	6.6	5	.09	4.5	9	.11	4.0	2	.02
15	6.6	5	.09	4.0	8	.09	4.0	---	.02
16	6.9	5	.09	4.0	13	.14	4.0	---	.02
17	6.9	5	.09	4.5	9	.11	4.0	---	.02
18	6.9	5	.09	4.5	9	.11	4.0	---	.02
19	7.3	5	.10	5.0	9	.12	4.0	---	.02
20	7.3	5	.10	5.0	9	.12	4.0	2	.02
21	7.6	5	.10	5.0	8	.11	4.0	---	.02
22	8.7	8	.19	5.0	---	.08	4.0	---	.02
23	8.7	8	.19	5.0	---	.08	4.0	---	.02
24	8.0	8	.17	5.0	3	.04	4.0	---	.02
25	8.4	8	.18	5.0	---	.04	4.0	---	.02
26	8.0	8	.17	5.0	---	.04	4.0	---	.02
27	7.6	8	.16	4.5	3	.04	4.0	2	.02
28	7.3	8	.16	4.5	---	.04	4.0	---	.02
29	7.3	8	.16	4.5	4	.05	4.0	---	.02
30	7.6	8	.16	4.5	---	.05	4.0	---	.02
31	7.6	8	.16	---	---	---	4.0	---	.02
TOTAL	218.4	---	3.56	154.5	---	3.19	124.0	---	0.97
		JANUARY			FEBRUARY			MARCH	
1	4.0	---	.05	4.0	---	.05	4.0	5	.05
2	4.0	---	.05	4.0	---	.05	4.0	---	.05
3	4.0	---	.05	4.0	---	.05	4.0	---	.05
4	4.0	---	.05	4.0	---	.05	4.0	5	.05
5	4.0	---	.05	4.0	---	.05	4.0	---	.05
6	4.0	---	.05	4.0	---	.05	4.0	6	.06
7	4.0	5	.05	4.0	---	.05	4.0	---	.05
8	4.0	---	.05	4.0	---	.05	4.0	6	.06
9	4.0	4	.04	4.0	---	.05	4.0	---	.05
10	4.0	---	.05	4.0	---	.05	4.0	---	.05
11	4.0	---	.05	4.0	---	.05	4.0	6	.06
12	4.0	---	.05	4.0	---	.05	4.0	---	.05
13	4.0	---	.05	4.0	---	.05	4.0	---	.05
14	4.0	---	.05	4.0	---	.05	4.0	8	.09
15	4.0	---	.05	4.0	---	.05	4.0	---	.05
16	4.0	3	.03	4.0	2	.02	4.0	4	.04
17	4.0	---	.05	4.0	---	.05	4.0	---	.05
18	4.0	---	.05	4.0	2	.02	4.0	---	.05
19	4.0	7	.08	4.0	---	.05	4.0	---	.05
20	4.0	---	.05	4.0	2	.02	4.0	3	.03
21	4.0	6	.06	4.0	---	.05	4.0	2	.02
22	4.0	---	.05	4.0	---	.05	4.0	---	.05
23	4.0	---	.05	4.0	5	.05	4.0	---	.05
24	4.0	5	.05	4.0	---	.05	4.0	---	.05
25	4.0	---	.05	4.0	5	.05	4.5	5	.06
26	4.0	5	.05	4.0	---	.05	4.5	---	.05
27	4.0	---	.05	4.0	---	.05	4.5	5	.06
28	4.0	---	.05	4.0	---	.05	5.0	---	.05
29	4.0	---	.05	---	---	---	5.0	6	.08
30	4.0	---	.05	---	---	---	5.0	---	.05
31	4.0	---	.05	---	---	---	4.5	7	.09
TOTAL	124.0	---	1.56	112.0	---	1.31	129.0	---	1.65

06619400 CANADIAN RIVER NEAR LINDLAND, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	4.0	---	.05	35	19	1.8	61	28	4.6
2	4.0	---	.05	37	17	1.7	51	27	3.7
3	4.0	8	.09	39	17	1.8	37	26	2.6
4	4.0	---	.08	30	23	1.9	40	24	2.6
5	4.0	---	.08	46	39	5.0	48	28	3.6
6	4.5	7	.09	53	42	6.4	51	32	4.4
7	5.0	---	.12	43	18	2.1	55	28	4.2
8	5.5	---	.14	35	14	1.3	75	30	6.1
9	6.0	---	.16	33	21	1.9	83	39	8.7
10	7.0	---	.18	29	18	1.4	61	29	4.8
11	7.0	---	.19	25	23	1.6	43	21	2.4
12	6.0	---	.16	28	20	1.5	39	14	1.5
13	6.0	---	.16	25	15	1.0	48	20	2.6
14	8.0	---	.22	30	23	1.9	62	26	4.4
15	12	---	.38	38	31	3.2	82	46	10
16	20	---	.81	52	41	5.8	78	35	7.4
17	30	---	1.5	57	64	9.8	67	26	4.7
18	45	---	5.0	61	62	11	58	24	3.8
19	45	80	9.7	64	54	9.3	80	32	6.9
20	40	76	9.1	73	68	14	54	17	2.5
21	45	96	12	71	50	9.6	44	22	2.6
22	58	82	14	66	36	6.4	40	21	2.3
23	64	132	27	66	31	5.5	40	22	2.4
24	62	77	14	77	40	8.3	42	18	2.0
25	46	44	5.7	83	38	8.5	36	25	2.4
26	28	39	3.1	86	39	9.1	32	22	1.9
27	30	32	3.2	79	47	10	33	18	1.6
28	36	20	1.9	73	58	12	31	15	1.3
29	31	21	1.8	104	83	23	28	16	1.2
30	30	18	1.5	98	50	13	28	19	1.4
31	---	---	---	76	30	6.2	---	---	---
TOTAL	697.0	---	112.46	1712	---	196.0	1527	---	110.6
		JULY			AUGUST			SEPTEMBER	
1	36	17	1.7	16	28	1.2	17	10	.46
2	27	16	1.2	15	21	.85	16	8	.35
3	23	15	.93	14	20	.76	15	11	.45
4	22	20	1.2	12	19	.62	14	14	.53
5	20	17	.92	12	---	.60	14	12	.45
6	19	17	.92	11	19	.56	13	12	.42
7	34	29	2.7	11	20	.59	12	14	.45
8	29	22	1.7	9.1	16	.39	12	14	.45
9	25	22	1.5	8.7	16	.38	11	12	.36
10	26	25	1.8	13	27	.95	11	8	.24
11	25	27	1.8	12	24	.78	11	7	.21
12	25	40	2.7	9.4	17	.43	11	8	.24
13	26	---	3.0	9.8	16	.42	10	8	.22
14	27	---	3.5	17	34	1.6	9.8	10	.26
15	26	---	2.5	16	---	1.3	9.4	---	.30
16	25	32	2.2	21	36	2.0	9.4	16	.41
17	25	22	1.5	20	28	1.5	8.7	13	.31
18	26	16	1.1	24	40	2.6	8.4	14	.32
19	28	17	1.3	30	54	4.6	7.8	10	.21
20	22	---	.95	40	70	8.1	6.9	8	.15
21	21	14	.79	38	44	4.5	7.3	9	.18
22	24	22	1.4	28	27	2.0	7.3	14	.28
23	22	19	1.1	23	30	1.9	6.9	8	.15
24	22	27	1.6	22	26	1.5	6.6	7	.12
25	21	28	1.6	20	20	1.1	6.2	10	.17
26	18	17	.83	20	16	.86	6.2	---	.15
27	19	26	1.3	18	18	.87	7.3	8	.16
28	19	21	1.1	17	21	.96	7.3	5	.10
29	17	---	.90	17	22	1.0	6.9	5	.09
30	16	---	.90	17	14	.64	6.6	5	.09
31	16	21	.91	18	13	.63	---	---	---
TOTAL	731	---	47.55	559.0	---	46.19	296.0	---	8.28
YEAR	6383.9		533.32						

06619450 CANADIAN RIVER NEAR BROWNLEE, CO

LOCATION.--Lat 40°28'29", long 106°14'09", in NE¼SW¼ sec.26, T.10 N., R.79 W., Jackson County, Hydrologic Unit 10180001, on right bank 3.1 mi (5.0 km) east of Brownlee, 3.9 mi (6.3 km) below mouth of Coon Creek, and 4.7 mi (7.6 km) north of Walden.

DRAINAGE AREA.--158 mi^2 (409 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 7,930 ft (2,417 m) from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Natural flow of stream affected by numerous diversions for irrigation of hay meadows and return flows from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 256 ft^3/s (7.25 m^3/s) June 16, 1978, gage height, 3.88 ft (1.183 m); maximum gage height, 4.47 ft (1.362 m) at 1700 Apr. 7, 1979 (backwater from ice); minimum daily discharge, 2.6 ft^3/s (0.074 m^3/s) Sept. 9, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 242 ft^3/s (6.85 m^3/s) at 0600 Apr. 20, gage height, 3.74 ft (1.140 m); maximum gage height, 4.47 ft (1.362 m) at 1700 Apr. 7 (backwater from ice); minimum daily discharge, 3.5 ft^3/s (0.099 m^3/s) Dec. 8, 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.4	16	6.0	4.0	4.5	6.0	9.0	59	106	47	16	17
2	8.8	16	5.5	4.0	4.5	6.0	9.0	66	84	55	15	15
3	8.0	13	5.0	4.0	4.5	6.0	9.0	67	74	46	13	14
4	8.4	12	5.5	4.0	4.5	6.0	9.0	65	58	36	11	12
5	10	12	5.0	4.0	4.5	6.0	9.0	56	54	31	9.4	11
6	8.8	11	5.0	4.0	4.5	6.0	10	65	66	28	8.8	11
7	8.8	10	4.5	4.0	4.5	6.0	13	71	117	19	8.8	10
8	11	10	3.5	4.0	5.0	6.0	18	68	148	20	8.8	11
9	10	11	3.5	4.0	5.0	6.0	25	66	183	22	9.4	9.4
10	9.4	11	4.0	4.0	5.5	6.0	35	66	192	24	8.4	8.4
11	8.8	11	4.0	4.0	6.0	6.0	30	56	153	20	13	8.4
12	8.8	10	4.0	4.2	6.0	6.5	25	50	107	18	14	7.6
13	8.4	9.0	4.0	4.5	6.0	7.0	30	50	95	12	11	7.6
14	8.8	7.5	4.0	4.5	6.0	7.0	40	46	106	12	11	10
15	8.8	6.0	4.0	4.5	6.0	7.0	50	50	112	12	16	11
16	8.8	6.0	4.0	4.5	6.0	7.5	70	57	137	14	22	9.4
17	8.8	6.5	4.0	4.5	6.0	8.0	100	69	139	20	25	8.8
18	9.4	7.0	4.0	4.5	6.0	8.0	150	72	118	28	30	8.4
19	9.4	7.5	4.0	4.5	6.0	8.0	191	76	131	34	41	8.1
20	10	8.0	4.0	4.5	6.0	8.0	214	77	148	34	48	7.6
21	10	8.0	4.0	4.5	6.0	8.0	150	71	114	27	53	8.4
22	12	7.5	4.0	4.5	6.0	8.0	125	83	90	25	49	8.8
23	13	7.0	4.0	4.5	6.0	8.0	115	89	76	33	39	9.4
24	16	7.0	4.0	4.5	6.0	8.0	118	92	70	34	33	8.4
25	12	7.0	4.0	4.5	6.0	8.5	114	107	62	31	30	8.0
26	17	7.0	4.0	4.5	6.0	9.0	95	107	56	27	27	8.4
27	16	6.0	4.0	4.5	6.0	10	71	89	50	24	25	9.4
28	14	6.0	4.0	4.5	6.0	10	71	89	51	22	22	9.4
29	12	6.0	4.0	4.5	---	10	68	84	48	22	19	10
30	12	6.0	4.0	4.5	---	9.0	62	115	46	19	16	9.4
31	13	---	4.0	4.5	---	9.0	---	135	---	16	17	---
TOTAL	329.6	268.0	131.5	133.7	155.0	230.5	2035.0	2313	2991	812	669.6	295.3
MEAN	10.6	8.93	4.24	4.31	5.54	7.44	67.8	74.6	99.7	26.2	21.6	9.84
MAX	17	16	6.0	4.5	6.0	10	214	135	192	55	53	17
MIN	8.0	6.0	3.5	4.0	4.5	6.0	9.0	46	46	12	8.4	7.6
AC-FT	654	532	261	265	307	457	4040	4590	5930	1610	1330	586

WTR YR 1979 TOTAL 10364.2 MEAN 28.4 MAX 214 MIN 3.5 AC-FT 20560

NOTE.--NO GAGE-HEIGHT RECORD JAN. 17 TO MAR. 21.

06619450 CANADIAN RIVER NEAR BROWNLEE, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1977 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: April 1979 to current year.
WATER TEMPERATURE: April 1978 to current year.
SUSPENDED SEDIMENT DISCHARGE: May 1978 to current year.

INSTRUMENTATION.--Automatic pumping sediment sampler since May 1978. Water-quality monitor since April 1978.

REMARKS.--Daily maximum and minimum specific conductance data available in district office.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Minimum, 409 micromhos Nov. 21; minimum, 156 micromhos Aug. 24.
WATER TEMPERATURES: Maximum, 28°C Aug. 6, 7; minimum, 0.0°C most days during winter and spring months.
SEDIMENT CONCENTRATIONS: Maximum, 210 mg/L Apr. 24; minimum daily, 2 mg/L on many days during winter months.
SEDIMENT LOADS: Maximum daily, 101 tons (92 t) April 19; minimum daily, 0.02 ton (0.02 t) on many days during winter months.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT										
05...	1800	12	315	8.2	11.5	7.8	140	17	40	9.7
NOV										
02...	1545	11	300	8.2	7.0	9.6	140	30	40	8.9
DEC										
14...	1115	2.4	370	7.3	.0	5.0	160	23	47	11
JAN										
17...	1445	5.0	290	7.3	.0	3.6	140	35	41	9.6
FEB										
20...	1450	7.5	310	7.5	.0	3.4	140	29	41	10
MAR										
22...	0900	10	330	7.3	.0	3.6	150	38	43	11
APR										
18...	1045	130	330	8.0	1.5	8.0	130	39	32	12
MAY										
09...	0900	66	280	8.0	3.0	10.0	130	49	37	9.0
JUN										
13...	1300	96	300	8.1	18.0	7.6	130	16	36	10
JUL										
17...	1115	18	319	8.2	18.5	--	140	0	38	11
AUG										
29...	1050	19	200	7.4	14.0	7.5	85	9	24	6.0
SEP										
19...	1700	7.6	265	7.7	16.0	7.2	120	10	35	8.2

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
OCT										
05...	11	.4	2.0	150	0	120	39	1.4	.1	8.6
NOV										
02...	10	.4	1.8	130	0	110	44	1.5	.2	10
DEC										
14...	12	.4	2.5	170	0	140	55	1.9	.2	14
JAN										
17...	9.6	.4	1.5	130	0	110	46	1.3	.2	13
FEB										
20...	9.4	.3	1.7	140	0	110	51	1.8	.2	12
MAR										
22...	11	.4	3.0	140	0	110	53	2.2	.2	12
APR										
18...	21	.8	4.6	110	0	90	72	3.2	.2	9.8
MAY										
09...	13	.5	2.0	98	0	80	52	2.0	.2	8.7
JUN										
13...	11	.4	2.2	140	0	110	27	1.5	.2	10
JUL										
17...	11	.4	1.2	180	0	150	19	1.0	.2	11
AUG										
29...	6.6	.3	1.3	92	0	75	21	1.1	.2	6.9
SEP										
19...	10	.4	1.8	134	0	110	30	1.3	.2	6.2

06619450 CANADIAN RIVER NEAR BROWNLEE, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P)	BORON, DISSOLVED (UG/L AS B)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)
OCT 05...	186	.25	6.03	.02	.00	60	530	60	30	20
NOV 02...	181	.25	5.30	.01	.00	40	540	90	30	40
DEC 14...	229	.31	1.51	.21	.00	60	340	80	80	70
JAN 17...	187	.25	2.52	.12	.00	40	550	140	80	90
FEB 20...	197	.27	3.09	.12	.07	30	450	130	80	60
MAR 22...	205	.28	5.54	.10	.03	40	560	230	80	70
APR 18...	211	.29	74.1	.09	.10	80	2000	520	240	180
MAY 09...	173	.24	30.8	.14	.01	50	850	260	40	20
JUN 13...	167	.23	43.3	.00	.00	40	710	250	40	30
JUL 17...	182	.25	8.85	.01	.00	80	840	190	60	40
AUG 29...	113	.15	5.80	.01	.01	30	780	220	30	10
SEP 19...	159	.22	3.26	.00	.01	30	290	30	30	20

DATE	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)
OCT 05...	130	70	0	0	0	0	3	1	0	0	.0
DEC 14...	70	10	--	--	--	--	--	--	3	1	--
JUN 05...	--	--	--	3	0	1	3	0	--	--	--
JUL 17...	300	40	--	--	--	--	--	--	80	24	--

DATE	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)
OCT 05...	.0	4	0	5	1	0	0	10	0	4.3	4.1
DEC 14...	--	--	--	--	--	--	--	10	4	3.2	3.3
JUN 05...	.0	0	0	3	0	--	0	--	--	16	13
JUL 17...	--	--	--	--	--	--	--	20	<3	11	7.2

06619450 CANADIAN RIVER NEAR BROWNLEE, CO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	322	308					---	296	242	335	216	213
2	315	---					---	287	247	331	206	210
3	315	---					---	303	250	342	208	219
4	298	---					---	304	243	355	222	219
5	290	300					---	313	253	348	251	223
6	292	305					---	267	272	339	270	220
7	295	318					---	231	293	345	270	237
8	292	308					---	246	305	341	256	226
9	296	307					---	301	304	328	284	235
10	308	308					---	351	286	320	290	214
11	309	315					---	363	238	334	281	195
12	329	297					---	357	224	349	233	---
13	328	322					---	341	251	364	256	---
14	324	337					---	334	270	365	266	---
15	318	367					---	303	262	352	251	---
16	322	373					---	262	245	317	216	---
17	309	384					---	223	251	323	214	---
18	321	376					321	202	258	322	226	---
19	323	369					326	193	264	314	266	---
20	330	374					348	189	262	308	295	---
21	324	392					321	---	269	320	204	---
22	319	---					287	201	273	318	218	---
23	320	---					313	202	278	257	195	---
24	324	---					311	201	281	270	168	---
25	310	---					300	201	---	265	172	---
26	322	---					312	189	---	255	182	---
27	316	---					307	194	302	260	193	---
28	304	---					308	207	301	255	198	---
29	314	---					298	217	310	242	209	---
30	308	---					298	225	322	250	212	---
31	307	---					---	234	---	259	213	---

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---	---	---	---	---						
2		---	---	---	---	---						
3		---	229	---	---	---						
4		---	---	---	---	---						
5		---	---	321	---	---						
6		---	---	---	---	---						
7		---	---	322	---	---						
8		---	---	---	---	---						
9		---	408	335	---	---						
10		---	---	---	---	---						
11		---	390	---	---	---						
12		---	---	---	---	---						
13		---	369	---	---	---						
14		---	379	---	---	---						
15		---	---	---	---	---						
16		---	---	---	---	---						
17		---	---	290	---	---						
18		---	383	---	---	---						
19		---	---	---	---	---						
20		---	345	---	310	---						
21		344	---	295	---	330						
22		---	---	---	---	---						
23		---	---	---	---	---						
24		258	---	308	---	---						
25		---	---	---	---	---						
26		---	---	---	---	---						
27		245	334	306	---	---						
28		---	---	---	---	---						
29		224	---	---	---	---						
30		---	---	---	---	---						
31		---	331	---	---	---						

06619450 CANADIAN RIVER NEAR BROWNLEE, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	17.0	5.5	8.0	1.5	.0	.0	.0	.0	.0	.0	.0	.0
2	17.0	5.5	---	---	.0	.0	.0	.0	.0	.0	.0	.0
3	15.5	1.5	---	---	.0	.0	.0	.0	.0	.0	.0	.0
4	14.5	1.5	---	---	.0	.0	.0	.0	.0	.0	.0	.0
5	14.5	1.0	7.0	.5	.0	.0	.0	.0	.0	.0	.0	.0
6	14.0	.0	4.5	.5	.0	.0	.0	.0	.0	.0	.0	.0
7	14.0	.0	4.0	.5	.0	.0	.0	.0	.0	.0	.0	.0
8	11.0	1.5	7.0	.5	.0	.0	.0	.0	.0	.0	.0	.0
9	14.5	2.0	7.5	.5	.0	.0	.0	.0	.0	.0	.0	.0
10	12.5	2.0	3.0	.5	.0	.0	.0	.0	.0	.0	.0	.0
11	13.5	2.0	4.5	.5	.0	.0	.0	.0	.0	.0	.0	.0
12	13.0	3.5	2.5	.5	.0	.0	.0	.0	.0	.0	.0	.0
13	12.5	.0	1.0	.5	.0	.0	.0	.0	.0	.0	.0	.0
14	12.0	.0	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0
15	12.5	.0	1.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16	11.5	.5	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0
17	7.5	1.0	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0
18	12.0	4.5	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0
19	12.5	1.5	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0
20	10.5	2.0	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0
21	11.5	7.0	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0
22	8.5	3.5	---	---	.0	.0	.0	.0	.0	.0	.0	.0
23	9.0	1.0	---	---	.0	.0	.0	.0	.0	.0	.0	.0
24	9.5	1.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
25	9.0	2.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
26	8.0	1.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
27	8.5	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
28	9.5	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
29	9.0	1.0	.0	.0	.0	.0	.0	.0	---	---	.0	.0
30	7.0	1.5	.0	.0	.0	.0	.0	.0	---	---	.0	.0
31	9.5	1.0	---	---	.0	.0	.0	.0	---	---	.0	.0

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	.0	.0	9.5	6.0	15.0	7.0	21.0	12.5	24.5	12.0	21.5	9.0
2	.0	.0	8.5	5.5	18.5	9.5	22.0	13.0	25.0	12.0	21.0	9.5
3	.0	.0	9.0	4.5	20.0	10.5	22.5	13.5	25.0	12.5	22.0	9.0
4	.0	.0	13.5	3.5	21.5	11.5	23.0	14.5	26.0	12.5	22.0	10.5
5	.0	.0	14.0	6.5	22.0	12.0	23.5	13.5	27.5	13.0	22.5	9.0
6	.0	.0	11.5	6.5	20.0	12.5	19.0	14.0	28.0	13.5	22.5	9.5
7	.0	.0	6.5	4.0	15.0	11.5	24.5	11.0	28.0	13.0	23.0	9.5
8	.0	.0	6.0	3.0	11.5	8.0	23.5	13.0	25.0	15.0	21.0	10.5
9	---	---	8.5	2.0	10.5	6.5	24.5	12.5	24.0	13.0	21.5	9.5
10	---	---	8.0	3.0	17.0	7.0	23.5	12.5	26.0	13.0	20.5	11.5
11	---	---	7.5	2.5	19.5	12.0	25.0	12.0	24.0	11.5	20.0	9.5
12	---	---	10.5	2.5	23.0	13.0	26.5	13.0	24.5	12.5	20.5	7.5
13	---	---	14.0	5.5	23.0	13.5	25.5	13.5	21.5	13.0	14.0	7.0
14	---	---	13.0	7.5	18.0	13.5	24.5	13.0	17.5	12.5	18.0	4.5
15	---	---	17.0	7.5	18.0	12.0	23.5	13.5	20.5	12.5	19.0	4.5
16	---	---	15.5	9.0	20.0	11.5	24.5	14.5	19.5	13.0	20.5	6.0
17	---	---	16.0	9.5	19.5	12.5	21.0	14.0	20.5	12.5	19.5	6.5
18	5.0	1.0	17.5	10.5	18.0	12.5	19.5	12.5	17.5	14.5	21.0	6.5
19	5.5	.0	18.5	10.0	13.0	8.5	21.5	11.5	15.5	13.0	19.0	7.0
20	6.0	.0	13.0	11.5	16.0	7.0	21.0	13.0	13.0	12.0	---	---
21	6.0	.0	---	---	19.0	12.0	23.5	13.0	15.5	11.0	---	---
22	7.0	2.5	16.5	12.5	20.5	12.5	22.5	14.0	17.5	11.0	---	---
23	8.0	3.5	19.0	9.5	21.0	13.0	22.5	14.5	18.5	10.5	---	---
24	7.0	4.0	18.5	11.0	23.0	12.5	23.5	14.0	19.5	12.0	---	---
25	6.5	4.0	18.5	12.0	22.5	13.0	25.5	14.5	18.5	10.5	---	---
26	7.0	3.0	19.5	11.0	21.5	13.0	23.5	14.0	19.5	9.5	---	---
27	8.5	3.5	20.5	12.0	23.0	12.5	25.5	13.5	19.0	10.5	---	---
28	11.5	5.5	16.5	13.0	24.0	14.0	25.0	14.5	20.0	10.5	---	---
29	11.5	4.0	13.5	10.5	23.5	13.5	25.0	13.0	23.0	11.0	---	---
30	11.0	4.5	11.5	7.5	20.5	14.0	24.0	12.5	19.0	11.5	---	---
31	---	---	11.5	7.5	---	---	24.5	12.5	20.0	10.0	---	---

06619450 CANADIAN RIVER NEAR BROWNLEE, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	9.4	7	.18	16	54	2.3	6.0	---	.10
2	8.8	7	.17	16	---	1.0	5.5	---	.05
3	8.0	7	.15	13	---	.70	5.0	---	.04
4	8.4	7	.16	12	13	.42	5.5	---	.05
5	10	7	.19	12	13	.42	5.0	---	.04
6	8.8	7	.17	11	13	.39	5.0	---	.04
7	8.8	7	.17	10	13	.35	4.5	---	.04
8	11	7	.21	10	13	.35	3.5	---	.04
9	10	7	.19	11	13	.39	3.5	9	.09
10	9.4	7	.18	11	13	.39	4.0	---	.04
11	8.8	7	.17	11	13	.39	4.0	5	.05
12	8.8	7	.17	10	13	.35	4.0	---	.04
13	8.4	7	.16	9.0	13	.32	4.0	5	.05
14	8.8	7	.17	7.5	13	.26	4.0	2	.02
15	8.8	7	.17	6.0	13	.21	4.0	---	.04
16	8.8	7	.17	6.0	13	.21	4.0	---	.04
17	8.8	7	.17	6.5	13	.23	4.0	---	.04
18	9.4	---	.25	7.0	13	.25	4.0	3	.03
19	9.4	20	.51	7.5	13	.26	4.0	---	.04
20	10	---	.40	8.0	13	.28	4.0	2	.02
21	10	---	.40	8.0	13	.28	4.0	---	.04
22	12	---	.60	7.5	13	.26	4.0	---	.04
23	13	23	.81	7.0	---	.20	4.0	---	.04
24	16	---	1.0	7.0	---	.20	4.0	---	.04
25	12	---	.60	7.0	---	.20	4.0	---	.04
26	17	---	1.1	7.0	---	.20	4.0	---	.04
27	16	11	.48	6.0	---	.10	4.0	2	.02
28	14	---	.80	6.0	---	.10	4.0	---	.04
29	12	29	.94	6.0	---	.10	4.0	---	.04
30	12	---	.60	6.0	---	.10	4.0	---	.04
31	13	---	.70	---	---	---	4.0	3	.03
TOTAL	329.6	---	12.14	268.0	---	11.21	131.5	---	1.31
		JANUARY			FEBRUARY			MARCH	
1	4.0	---	.04	4.5		.04	6.0	---	.10
2	4.0	---	.04	4.5		.04	6.0	---	.10
3	4.0	---	.04	4.5		.04	6.0	---	.10
4	4.0	---	.04	4.5		.04	6.0	---	.10
5	4.0	2	.02	4.5		.04	6.0	---	.10
6	4.0	---	.04	4.5		.04	6.0	---	.10
7	4.0	3	.03	4.5		.04	6.0	---	.10
8	4.0	---	.04	5.0		.04	6.0	---	.10
9	4.0	2	.02	5.0		.04	6.0	---	.10
10	4.0	---	.04	5.5		.05	6.0	---	.10
11	4.0	---	.04	6.0		.10	6.0	---	.10
12	4.2	---	.04	6.0		.10	6.5	---	.10
13	4.5	---	.04	6.0		.10	7.0	---	.15
14	4.5	---	.04	6.0		.10	7.0	---	.15
15	4.5	---	.04	6.0		.10	7.0	---	.15
16	4.5	---	.04	6.0		.10	7.5	---	.20
17	4.5	---	.04	6.0		.10	8.0	---	.20
18	4.5	---	.04	6.0		.10	8.0	---	.20
19	4.5	2	.02	6.0		.10	8.0	---	.20
20	4.5	---	.04	6.0		.10	8.0	---	.20
21	4.5	5	.06	6.0		.10	8.0	---	.20
22	4.5	---	.04	6.0		.10	8.0	24	.52
23	4.5	---	.04	6.0		.10	8.0	---	.20
24	4.5	2	.02	6.0		.10	8.0	---	.20
25	4.5	---	.04	6.0		.10	8.5	---	.20
26	4.5	---	.04	6.0		.10	9.0	---	.25
27	4.5	2	.02	6.0		.10	10	---	.30
28	4.5	---	.04	6.0		.10	10	---	.30
29	4.5	---	.04	---			10	---	.30
30	4.5	---	.04	---			9.0	---	.25
31	4.5	---	.04	---			9.0	---	.25
TOTAL	133.7	---	1.15	155.0		2.21	230.5	---	5.62

06619450 CANADIAN RIVER NEAR BROWNLEE, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	9.0	---	.25	59	92	15	106	128	37
2	9.0	---	.25	66	99	18	84	99	22
3	9.0	---	.25	67	94	17	74	92	18
4	9.0	---	.25	65	98	17	58	86	13
5	9.0	---	.25	56	70	11	54	61	8.9
6	10	---	.30	65	70	12	66	60	11
7	13	---	.50	71	84	16	117	90	28
8	18	---	1.0	68	71	13	148	113	45
9	25	---	1.5	66	74	13	183	59	29
10	35	---	2.5	66	106	19	192	40	21
11	30	---	2.0	56	66	10	153	43	18
12	25	---	1.5	50	45	6.1	107	50	14
13	30	---	2.0	50	34	4.6	95	55	14
14	40	---	3.0	46	29	3.6	106	58	17
15	50	---	8.0	50	48	6.5	112	82	25
16	70	---	15	57	94	14	137	83	31
17	100	---	30	69	144	27	139	74	28
18	150	---	60	72	118	23	118	69	22
19	191	196	101	76	102	21	131	81	29
20	214	170	98	77	174	36	148	77	31
21	150	165	67	71	170	33	114	29	8.9
22	125	173	58	83	117	26	90	20	4.9
23	115	179	56	89	56	13	76	20	4.1
24	118	210	67	92	98	24	70	20	3.8
25	114	170	52	107	162	47	62	24	4.0
26	95	122	31	107	146	42	56	25	3.8
27	71	83	16	89	194	47	50	26	3.5
28	71	79	15	89	135	32	51	22	3.0
29	68	88	16	84	138	31	48	31	4.0
30	62	86	14	115	140	43	46	30	3.7
31	---	---	---	135	107	39	---	---	---
TOTAL	2035.0	---	719.55	2313	---	679.8	2991	---	505.6
		JULY			AUGUST			SEPTEMBER	
1	47	44	5.6	16	36	1.6	17	16	.73
2	55	37	5.5	15	28	1.1	15	14	.57
3	46	22	2.7	13	35	1.2	14	11	.42
4	36	27	2.6	11	21	.62	12	11	.36
5	31	14	1.2	9.4	24	.61	11	10	.30
6	28	11	.83	8.8	29	.69	11	12	.36
7	19	9	.46	8.8	26	.62	10	11	.30
8	20	13	.70	8.8	40	1.1	11	18	.53
9	22	20	1.2	9.4	39	.99	9.4	12	.30
10	24	11	.71	8.4	25	.57	8.4	12	.27
11	20	14	.76	13	22	.77	8.4	16	.36
12	18	15	.73	14	23	.87	7.6	15	.31
13	12	11	.36	11	12	.36	7.6	12	.25
14	12	14	.45	11	12	.36	10	10	.27
15	12	12	.39	16	29	1.3	11	9	.27
16	14	32	1.2	22	39	2.3	9.4	10	.25
17	20	41	2.5	25	40	2.7	8.8	9	.21
18	28	52	3.9	30	48	3.9	8.4	8	.18
19	34	62	5.7	41	69	7.6	8.1	6	.13
20	34	48	4.4	48	70	9.1	7.6	4	.08
21	27	39	2.8	53	55	7.9	8.4	4	.09
22	25	65	4.4	49	49	6.5	8.8	4	.10
23	33	71	6.3	39	38	4.0	9.4	4	.10
24	34	78	7.2	33	26	2.3	8.4	4	.09
25	31	35	2.9	30	26	2.1	8.0	4	.09
26	27	48	3.5	27	23	1.7	8.4	5	.11
27	24	31	2.0	25	23	1.6	9.4	5	.13
28	22	57	3.4	22	20	1.2	9.4	5	.13
29	22	29	1.7	19	18	.92	10	5	.14
30	19	25	1.3	16	29	1.3	9.4	6	.15
31	16	37	1.6	17	19	.87	---	---	---
TOTAL	812	---	78.99	669.6	---	68.75	295.3	---	7.58
YEAR	10364.2		2093.91						

06620000 NORTH PLATTE RIVER NEAR NORTHGATE, CO

LOCATION.--Lat 40°56'10", long 106°20'21", in SW¼SE¼ sec.11, T.11 N., R.80 W., Jackson County, Hydrologic Unit 10180001, on right bank 350 ft (110 m) downstream from bridge on State Highway 125, 0.8 mi (1.3 km) upstream from Camp Creek, 4.2 mi (6.8 km) northwest of Northgate, and 4.4 mi (7.1 km) south of Colorado-Wyoming State line.

DRAINAGE AREA.--1,431 mi^2 (3,706 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May to November 1904 (published as "near Pinkhampton"), May 1915 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1310: 1916-21, 1929(M), 1930-32. WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 7,810.39 ft (2,380.607 m) National Geodetic Vertical Datum of 1929. See WSP 1730 for history of changes prior to Apr. 8, 1918. Apr. 8, 1918, to Aug. 21, 1961, water-stage recorder, at site 0.8 mi (1.3 km) downstream at datum 3.36 ft (1.024 m) lower.

REMARKS.--Records good except those for winter period, which are poor. Diversions for irrigation of about 130,000 acres (526 km^2) of hay meadows above station. Transbasin diversions above station to Cache la Poudre River basin (see elsewhere in this report).

AVERAGE DISCHARGE.--64 years, 431 ft^3/s (12.21 m^3/s), 312,300 acre-ft/yr (385 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,720 ft^3/s (190 m^3/s) June 11, 1923, gage height, 6.24 ft (1.902 m), site and datum then in use; maximum gage height recorded, 8.84 ft (2.694 m) Apr. 9, 1962 (ice jam); minimum daily discharge, 19 ft^3/s (0.54 m^3/s) July 17-19, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,890 ft^3/s (110 m^3/s) at 0600 May 31, gage height, 6.40 ft (1.951 m); maximum gage height, 8.52 ft (2.597 m) at 1300 Apr. 19 (ice jam); minimum daily discharge, 55 ft^3/s (1.56 m^3/s) Dec. 6, 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	91	115	70	80	85	90	120	1490	3110	1630	460	221
2	88	118	65	80	90	90	110	1570	2290	1740	422	202
3	85	116	65	80	90	90	110	1560	1690	1680	394	185
4	83	111	65	80	90	90	120	1430	1340	1720	365	171
5	78	107	60	80	90	90	130	1290	1250	1630	342	161
6	75	105	55	80	90	90	150	1420	1340	1420	319	150
7	73	101	55	80	90	90	150	1650	1590	1300	298	144
8	73	102	60	80	90	90	160	1730	2250	1180	286	137
9	78	108	60	80	90	90	170	1570	3090	1090	285	133
10	79	99	65	80	90	90	180	1250	3470	1060	312	127
11	77	100	70	80	90	90	200	1080	2890	996	326	124
12	81	90	70	80	90	90	220	939	1970	931	332	121
13	80	90	70	80	90	90	250	825	1600	862	336	116
14	72	80	70	80	90	90	300	832	1620	831	324	120
15	72	70	70	80	90	95	450	991	1890	782	365	124
16	73	70	70	80	90	100	700	1210	2300	798	426	118
17	73	75	70	80	90	100	1000	1440	2550	854	437	115
18	75	75	75	80	90	100	1500	1690	2350	987	459	108
19	79	80	80	80	90	100	2500	1870	2120	986	515	101
20	81	80	80	80	90	110	1830	2130	2080	905	535	95
21	80	80	80	80	90	110	1840	2290	1890	824	577	94
22	92	80	80	80	90	110	2070	2310	1520	800	623	100
23	122	80	80	80	90	110	2130	2220	1320	778	537	97
24	117	80	80	80	90	110	2060	2200	1300	865	442	90
25	124	80	80	80	90	110	2140	2170	1350	941	380	80
26	130	80	80	80	90	120	1980	2260	1410	800	344	79
27	115	75	80	80	90	130	1570	2460	1450	674	309	81
28	117	70	80	80	90	130	1530	2470	1510	658	274	91
29	122	70	80	80	---	120	1540	2750	1530	621	242	93
30	121	70	80	80	---	120	1450	3490	1530	549	231	88
31	120	---	80	80	---	120	---	3750	---	493	229	---
TOTAL	2826	2657	2225	2480	2515	3155	28660	56337	57600	31385	11726	3666
MEAN	91.2	88.6	71.8	80.0	89.8	102	955	1817	1920	1012	378	122
MAX	130	118	80	80	90	130	2500	3750	3470	1740	623	221
MIN	72	70	55	80	85	90	110	825	1250	493	229	79
AC-FT	5610	5270	4410	4920	4990	6260	56850	111700	114200	62250	23260	7270

CAL YR 1978 TOTAL 183342 MEAN 502 MAX 2810 MIN 55 AC-FT 363700
WTR YR 1979 TOTAL 205232 MEAN 562 MAX 3750 MIN 55 AC-FT 407100

NOTE.--NO GAGE-HEIGHT RECORD JAN. 27 TO MAR. 22.

06620000 NORTH PLATTE RIVER NEAR NORTHGATE, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1965 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1965 to September 1966, June 1971 to November 1972.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum 22.0°C Aug. 15, 25, 1971, July 29, Aug. 9, 13, 1972; minimum, freezing point many days during winter period.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)	OXYGEN, DIS-SOLVED (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	HARD-NESS (MG/L AS CACO3)
OCT 24...	0815	114	270	8.1	.5	2	10.6	36	110
NOV 21...	0815	E80	280	7.9	.0	4	10.4	23	110
DEC 17...	0815	E70	270	7.5	.0	3	8.4	K17	120
JAN 16...	0830	E80	250	7.1	.0	3	8.0	34	96
FEB 20...	0815	E90	270	7.2	.0	3	7.8	52	100
MAR 28...	0810	E120	295	7.3	.0	3	9.0	K6	100
APR 25...	0800	E150	290	7.6	4.0	25	9.4	21	89
MAY 30...	0800	3550	230	7.5	7.5	15	7.3	96	68
JUN 20...	0730	2090	230	7.7	8.0	6	8.1	84	88
JUL 31...	0730	504	220	8.0	14.0	4	7.2	52	83
AUG 21...	0800	558	205	7.9	10.5	7	7.9	86	78
SEP 18...	0830	105	245	8.0	8.5	2	8.1	68	86

DATE	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	ALKA-LINITY (MG/L AS CACO3)
OCT 24...	0	33	7.7	16	.7	1.9	140	0	120
NOV 21...	20	29	8.5	10	.4	.2	110	0	90
DEC 17...	5	33	8.2	9.1	.4	1.9	140	0	120
JAN 16...	0	27	6.9	11	.5	2.1	130	0	110
FEB 20...	0	28	8.0	14	.6	1.8	130	0	110
MAR 28...	0	30	6.7	12	.5	2.8	130	0	110
APR 25...	0	24	7.1	25	1.2	4.5	110	0	90
MAY 30...	0	17	6.2	16	.8	3.0	93	0	76
JUN 20...	0	24	6.8	13	.6	1.3	120	0	98
JUL 31...	1	23	6.1	11	.5	1.0	100	0	82
AUG 21...	0	21	6.1	10	.5	1.5	98	0	80
SEP 18...	0	24	6.4	14	.7	1.5	130	0	110

E ESTIMATED.

K BASED ON NON-IDEAL COLONY COUNT.

06620000 NORTH PLATTE RIVER NEAR NORTHGATE, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)
OCT									
24...	33	2.6	.5	3.7	166	51.1	.02	.10	.030
NOV									
21...	33	.4	.5	9.3	146	--	.09	.40	.020
DEC									
17...	26	.0	.6	12	159	--	.34	1.5	.040
JAN									
16...	15	1.8	.5	11	137	--	.18	.80	.020
FEB									
20...	17	8.1	.5	13	155	--	.11	.50	.040
MAR									
28...	12	3.7	.8	12	137	--	.45	2.0	.150
APR									
25...	44	5.4	.4	9.9	175	1020	.11	.50	.140
MAY									
30...	26	2.9	.5	8.7	126	1210	.00	.00	.120
JUN									
20...	21	.0	.4	9.0	134	756	.02	.10	.040
JUL									
31...	16	.9	.5	6.2	116	158	.05	.20	.020
AUG									
21...	17	.8	.4	8.4	112	169	.00	.00	.050
SEP									
18...	8.2	1.7	.5	6.3	129	36.6	--	--	.020

06620000 NORTH PLATTE RIVER NEAR NORTHGATE, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	PCB, TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	ALDRIN, TOTAL (UG/L)	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL (UG/L)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL (UG/L)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL (UG/L)
MAY 30...	0800	.0	0	.00	.0	.0	0	.00	.0	.00
JUN 20...	0730	--	--	--	--	--	--	--	--	--
JUL 31...	0730	--	--	--	--	--	--	--	--	--
AUG 21...	0800	--	--	--	--	--	--	--	--	--
SEP 18...	0830	--	--	--	--	--	--	--	--	--

DATE	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN TOTAL (UG/L)	DI-ELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)
MAY 30...	.2	.00	.00	.00	.0	.00	.00	.0	.00	.00
JUN 20...	--	--	--	--	--	--	--	--	--	--
JUL 31...	--	--	--	--	--	--	--	--	--	--
AUG 21...	--	--	--	--	--	--	--	--	--	--
SEP 18...	--	--	--	--	--	--	--	--	--	--

DATE	HEPTA-CHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOT, IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL (UG/L)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALA-THION, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)
MAY 30...	.0	.00	.0	.00	.0	.00	.00	.00	.00
JUN 20...	--	--	--	--	--	--	--	--	--
JUL 31...	--	--	--	--	--	--	--	--	--
AUG 21...	--	--	--	--	--	--	--	--	--
SEP 18...	--	--	--	--	--	--	--	--	--

DATE	TOX-APHENE, TOTAL (UG/L)	TOXA-PHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4-D, TOTAL IN BOTTOM MATERIAL (UG/KG)	2,4,5-T TOTAL (UG/L)	2,4,5-T TOTAL IN BOTTOM MATERIAL (UG/KG)	SILVEX, TOTAL (UG/L)	SILVEX, TOTAL IN BOTTOM MATERIAL (UG/KG)
MAY 30...	0	0	.00	.00	0	.00	0	.00	.0
JUN 20...	--	--	--	.00	0	.00	0	.00	.0
JUL 31...	--	--	--	.00	0	.00	0	.00	.0
AUG 21...	--	--	--	.00	--	.00	--	.00	--
SEP 18...	--	--	--	.00	0	.00	0	.00	.0

06657500 LARAMIE RIVER NEAR GLENDEVEY, CO

LOCATION.--Lat 40°48'02", long 105°52'40", in NW¼NW¼ sec.36, T.10 N., R.76 W., Larimer County, Hydrologic Unit 10180010, on left bank 200 ft (61 m) downstream from bridge on county road, 350 ft (110 m) downstream from Nunn Creek, 1,300 ft (400 m) upstream from Stub Creek, and 3.0 mi (4.8 km) east of Glendevey.

DRAINAGE AREA.--101 mi² (262 km²).

PERIOD OF RECORD.--June 1904 to October 1905, August 1910 to current year. Monthly discharge only for some periods, published in WSP 1310. Published as "at Glendevey" 1905, 1910-18.

REVISED RECORDS.--WSP 469: 1911-12. WSP 506: Drainage area. WSP 1310: 1905, 1914. WSP 1918: 1918 (monthly runoff).

GAGE.--Water-stage recorder. Altitude of gage is 8,230 ft (2,509 m), from topographic map. See WSP 1730 for history of changes prior to Sept. 20, 1935.

REMARKS.--Records good except those for winter period, which are fair. Diversions for irrigation of about 700 acres (2.83 km²) of hay meadows above station. Transbasin diversions above station to Cache la Poudre River and tributaries (see elsewhere in this report). Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--70 years, 73.2 ft³/s (2.073 m³/s), 53,030 acre-ft/yr (65.4 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,240 ft³/s (63.4 m³/s) June 9, 1923, gage height, 4.55 ft (1.387 m), from floodmarks, site and datum then in use, from rating curve extended above 1,400 ft³/s (40 m³/s); minimum daily recorded, 5.0 ft³/s (0.14 m³/s) Feb. 14, 15, 1911, but may have been less during winter periods of no gage-height record.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 950 ft³/s (26.9 m³/s) at 0400 June 7, gage height, 3.50 ft (1.067 m); minimum daily, 13 ft³/s (0.37 m³/s) Feb. 23 to Mar. 5, Mar. 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	19	15	14	14	13	15	48	365	368	30	16
2	23	19	15	14	14	13	15	49	339	300	29	16
3	23	19	15	14	14	14	15	45	380	282	28	16
4	22	19	15	14	14	13	15	43	440	227	27	15
5	22	18	15	14	14	13	15	57	508	198	27	15
6	22	16	14	14	14	14	15	73	626	172	26	15
7	22	16	14	14	14	14	17	73	880	133	27	15
8	22	18	14	14	14	14	18	60	620	110	28	15
9	21	17	14	14	14	14	19	53	466	87	25	15
10	21	16	14	14	14	14	20	48	406	68	28	15
11	20	16	15	14	14	14	19	44	410	59	23	15
12	20	16	15	14	14	14	18	47	448	54	22	15
13	19	16	15	14	14	14	17	54	570	48	22	18
14	19	14	15	14	15	14	18	63	695	45	33	45
15	19	14	15	14	14	14	21	73	774	42	29	44
16	19	14	15	14	14	14	27	98	692	40	42	40
17	19	14	15	14	14	14	33	127	616	44	35	37
18	20	14	16	14	14	13	39	157	566	46	30	35
19	20	15	16	14	14	14	47	204	496	42	36	34
20	19	15	16	14	14	16	46	244	387	34	33	34
21	20	16	16	14	14	14	46	266	386	33	31	42
22	26	16	16	14	14	14	47	273	409	40	26	36
23	23	16	16	14	13	14	53	305	437	39	23	34
24	24	16	16	14	13	14	64	369	466	39	22	33
25	24	16	16	14	13	15	60	433	458	35	21	32
26	22	15	15	14	13	15	46	467	468	32	20	33
27	23	15	16	14	13	14	48	529	472	32	20	41
28	22	15	16	14	13	15	49	685	469	37	19	34
29	21	15	15	14	---	15	46	818	431	35	18	32
30	20	15	15	14	---	15	48	641	352	32	18	31
31	19	---	14	14	---	15	---	452	---	31	19	---
TOTAL	660	480	469	434	387	437	956	6898	15032	2784	817	818
MEAN	21.3	16.0	15.1	14.0	13.8	14.1	31.9	223	501	89.8	26.4	27.3
MAX	26	19	16	14	15	16	64	818	880	368	42	45
MIN	19	14	14	14	13	13	15	43	339	31	18	15
AC-FT	1310	952	930	861	768	867	1900	13680	29820	5520	1620	1620

CAL YR 1978 TOTAL 28825 MEAN 79.0 MAX 786 MIN 12 AC-FT 57170
WTR YR 1979 TOTAL 30172 MEAN 82.7 MAX 880 MIN 13 AC-FT 59850

06693980 MIDDLE FORK SOUTH PLATTE RIVER ABOVE FAIRPLAY, CO

LOCATION.--Lat 39°14'12", long 106°01'43", in NW¼SW¼ sec.29, T.9 S., R.77 W., Park County, Hydrologic Unit 10190001, on left bank 500 ft (152 m) above county road bridge, 1,800 ft (550 m) above mouth of Sacramento Creek, and 1.6 mi (2.6 km) northwest of Fairplay.

DRAINAGE AREA.--62.2 mi² (161.1 km²).

PERIOD OF RECORD.--March 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 10,050 ft (3,063 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 414 ft³/s (11.7 m³/s) June 15, 1978, gage height, 2.32 ft (0.707 m); minimum daily, 5.0 ft³/s (0.142 m³/s) Apr. 3, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 355 ft³/s (10.1 m³/s) at 0100 June 15, gage height, 2.20 ft (0.671 m); minimum daily, 5.0 ft³/s (0.142 m³/s) Apr. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	14	10	8.0	8.0	8.0	7.0	18	122	284	81	36
2	17	14	10	8.0	8.0	8.0	6.0	21	100	265	75	35
3	17	14	8.0	8.0	8.0	8.0	5.0	21	105	226	68	34
4	17	14	8.0	8.0	8.0	8.0	6.0	22	123	212	64	32
5	17	14	8.0	8.0	8.0	8.0	6.0	26	163	206	63	31
6	17	14	8.0	8.0	8.0	8.0	6.0	27	204	214	60	29
7	17	13	8.0	8.0	8.0	8.0	6.0	27	239	212	61	29
8	16	14	8.0	8.0	8.0	8.0	7.0	25	182	195	62	28
9	16	14	8.0	8.0	8.0	8.0	7.0	22	136	181	62	26
10	15	14	8.0	8.0	8.0	8.0	7.0	22	130	175	66	27
11	15	14	8.0	8.0	8.0	8.0	7.0	21	151	172	59	27
12	14	15	8.0	8.0	8.0	8.0	7.0	21	173	160	59	26
13	14	15	8.0	8.0	8.0	8.0	7.0	23	238	162	59	24
14	14	10	8.0	8.0	8.0	8.0	10	32	296	163	90	25
15	14	10	8.0	8.0	8.0	8.0	15	30	307	172	94	23
16	14	10	8.0	8.0	8.0	8.0	21	33	288	165	88	25
17	13	10	8.0	8.0	8.0	8.0	24	39	276	148	92	23
18	14	10	8.0	8.0	8.0	8.0	26	43	245	132	110	23
19	15	10	8.0	8.0	8.0	8.0	26	57	190	122	117	22
20	15	10	8.0	8.0	8.0	8.0	25	66	147	115	106	25
21	14	10	8.0	8.0	8.0	8.0	23	65	161	117	89	28
22	17	10	8.0	8.0	8.0	8.0	22	69	189	126	76	25
23	18	10	8.0	8.0	8.0	7.0	23	79	222	112	64	23
24	16	10	8.0	8.0	8.0	7.0	23	97	267	109	56	21
25	16	10	8.0	8.0	8.0	7.0	21	111	278	110	51	21
26	19	10	8.0	8.0	8.0	7.0	19	115	266	109	51	22
27	16	10	8.0	8.0	8.0	7.0	18	152	268	113	44	23
28	17	10	8.0	8.0	8.0	7.0	18	224	281	111	42	24
29	16	10	8.0	8.0	---	7.0	17	247	271	104	39	21
30	14	10	8.0	8.0	---	7.0	17	231	270	97	37	21
31	14	---	8.0	8.0	---	7.0	---	160	---	83	37	---
TOTAL	485	353	252.0	248.0	224.0	239.0	432.0	2146	6286	4872	2122	779
MEAN	15.6	11.8	8.13	8.00	8.00	7.71	14.4	69.2	210	157	68.5	26.0
MAX	19	15	10	8.0	8.0	8.0	26	247	307	284	117	36
MIN	13	10	8.0	8.0	8.0	7.0	5.0	18	100	83	37	21
AC-FT	962	700	500	492	444	474	857	4260	12470	9660	4210	1550

WTR YR 1979 TOTAL 18440.0 MEAN 50.5 MAX 307 MIN 5.0 AC-FT 36580

NOTE.--NO GAGE-HEIGHT RECORD NOV. 13 TO APR. 6.

06694100 MIDDLE FORK SOUTH PLATTE RIVER NEAR HARTSEL, CO

LOCATION.--Lat 39°01'20", long 105°45'29", in SE¼NE¼ sec.10, T.12 S., R.75 W., Park County, Hydrologic Unit 10190001, on left bank 2,500 ft (760 m) upstream from bridge on County Road 59, 2.0 mi (3.2 km) east of Hartsel.

DRAINAGE AREA.--250 mi^2 (648 km).

PERIOD OF RECORD.--April 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 8,796 ft (2,680 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 515 ft^3/s (14.6 m^3/s) June 9, 1979, gage height, 2.98 ft (0.908 m); minimum daily, 1.0 ft^3/s (0.028 m^3/s) Jan. 31 to Feb. 6, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 515 ft^3/s (14.6 m^3/s) at 0300 June 9, gage height, 2.98 ft (0.908 m); minimum daily, 1.0 ft^3/s (0.028 m^3/s) Jan. 31 to Feb. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.6	14	7.0	2.8	1.0	2.7	10	22	170	270	98	41
2	7.6	14	7.0	2.8	1.0	2.7	12	28	124	302	92	37
3	7.1	14	5.0	2.8	1.0	2.5	15	35	81	252	81	36
4	7.4	13	5.0	2.8	1.0	2.0	20	41	80	216	74	35
5	7.1	14	5.0	2.8	1.0	2.0	25	46	94	213	65	32
6	7.3	12	5.0	2.8	1.0	2.5	28	50	131	198	62	30
7	7.3	12	4.0	2.5	1.5	3.0	30	37	201	267	60	26
8	7.5	13	3.0	2.0	1.5	3.5	40	26	394	219	59	26
9	7.5	11	2.5	1.5	1.5	3.5	50	25	480	180	65	25
10	7.3	11	2.5	1.5	1.5	3.5	50	25	354	159	74	24
11	6.5	11	2.5	1.5	1.5	4.0	45	26	258	138	70	17
12	6.5	11	2.5	1.5	2.0	4.0	45	31	213	149	60	14
13	5.9	11	2.5	1.5	2.5	4.0	45	29	210	154	62	12
14	5.9	11	2.5	1.5	2.5	4.5	46	24	240	149	114	13
15	5.9	11	2.5	1.5	2.7	4.5	57	22	278	138	177	13
16	5.9	10	2.5	1.5	2.7	4.5	60	19	294	187	136	12
17	6.5	10	2.5	1.5	2.7	5.0	62	18	290	201	124	10
18	7.1	10	2.5	1.5	2.7	5.0	64	18	261	198	131	10
19	8.2	10	2.5	1.5	2.7	5.0	53	19	222	215	159	10
20	8.2	10	2.8	1.5	2.7	6.0	42	31	167	166	138	13
21	8.8	10	2.8	1.5	2.7	6.0	37	40	138	181	116	29
22	13	10	2.8	1.5	2.7	6.0	34	29	149	199	96	22
23	12	10	2.8	1.5	2.7	7.0	32	25	172	183	85	18
24	13	9.0	2.8	1.5	2.7	7.0	32	42	210	161	73	17
25	16	7.0	2.8	1.5	2.7	7.0	30	54	249	154	65	15
26	18	7.0	2.8	1.5	2.7	8.0	26	69	246	149	64	16
27	21	7.0	2.8	1.5	2.7	8.0	24	80	240	146	62	15
28	15	7.0	2.8	1.5	2.7	8.0	24	122	246	149	53	15
29	13	7.0	2.8	1.5	---	9.0	24	169	246	136	51	15
30	13	7.0	2.8	1.5	---	9.0	23	216	246	124	47	14
31	14	---	2.8	1.0	---	10	---	267	---	108	44	---
TOTAL	297.1	314.0	102.1	55.3	58.3	159.4	1085	1685	6684	5661	2657	612
MEAN	9.58	10.5	3.29	1.78	2.08	5.14	36.2	54.4	223	183	85.7	20.4
MAX	21	14	7.0	2.8	2.7	10	64	267	480	302	177	41
MIN	5.9	7.0	2.5	1.0	1.0	2.0	10	18	80	108	44	10
AC-FT	589	623	203	110	116	316	2150	3340	13260	11230	5270	1210

WTR YR 1979 TOTAL 19370.2 MEAN 53.1 MAX 480 MIN 1.0 AC-FT 38420

NOTE.--NO GAGE-HEIGHT RECORD DEC. 3 TO APR. 13.

06694400 SOUTH FORK SOUTH PLATTE RIVER ABOVE FAIRPLAY, CO

LOCATION.--Lat 39°04'57", long 106°02'52", in NW¼NW¼ sec.19, T.11 S., R.77 W., Park County, Hydrologic Unit 10190001, on left bank 125 ft (38 m) upstream from culvert on county road, 1,800 ft (549 m) downstream from Rough and Tumbling Creek, 10 mi (16 km) south of Fairplay.

DRAINAGE AREA.--50.3 mi^2 (130.3 km^2).

PERIOD OF RECORD.--March 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 9,470 ft (2886 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 176 ft^3/s (4.98 m^3/s) June 10, 1979, gage height, 4.23 ft (1.289 m); minimum daily, 4.0 ft^3/s (0.11 m^3/s) Mar. 24, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 176 ft^3/s (4.98 m^3/s) June 10, gage height, 4.23 ft (1.289 m); minimum daily, 4.5 ft^3/s (0.13 m^3/s) Mar. 4 to Apr. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.0	9.6	6.5	6.0	5.5	5.5	4.5	9.1	104	100	24	12
2	6.9	9.6	6.5	6.0	5.5	5.5	4.5	12	97	99	24	11
3	6.7	9.8	6.5	6.0	5.5	5.0	4.5	10	98	90	23	11
4	7.0	9.5	6.5	6.0	5.5	4.5	4.5	10	95	86	21	11
5	6.9	9.6	6.5	6.0	5.5	4.5	4.5	12	95	82	20	10
6	6.4	8.9	6.5	6.0	5.5	4.5	4.5	14	102	87	19	10
7	6.6	8.5	6.0	6.0	5.5	4.5	5.0	14	127	87	21	9.9
8	6.6	8.7	6.0	6.0	5.5	4.5	5.5	14	140	76	21	10
9	6.7	8.5	6.0	6.0	5.5	4.5	6.0	13	130	71	22	9.9
10	6.6	8.2	6.0	6.0	5.5	4.5	6.0	13	131	67	24	9.5
11	6.4	7.4	6.0	6.0	5.5	4.5	6.0	12	125	61	22	9.6
12	6.6	8.2	6.0	6.0	5.5	4.5	6.0	13	112	54	20	9.2
13	6.7	7.4	6.0	6.0	5.5	4.5	6.0	12	118	53	20	9.2
14	6.6	7.0	6.0	6.0	5.5	4.5	7.0	12	133	52	30	9.2
15	6.7	7.0	6.0	6.0	5.5	4.5	8.0	12	147	54	36	9.2
16	6.8	7.0	6.0	6.0	5.5	4.5	9.0	15	150	53	26	9.4
17	6.6	7.0	6.0	6.0	5.5	4.5	10	18	150	50	23	9.4
18	6.7	7.0	6.0	6.0	5.5	4.5	11	22	146	49	24	9.4
19	7.4	7.0	6.0	6.0	5.5	4.5	12	32	147	45	22	9.2
20	7.0	7.0	6.0	6.0	5.5	4.5	9.5	40	132	43	20	10
21	7.3	7.0	6.0	6.0	5.5	4.5	9.1	38	117	43	20	13
22	11	7.0	6.0	6.0	5.5	4.5	9.0	48	113	39	18	11
23	10	7.0	6.0	6.0	5.5	4.5	9.8	59	114	36	17	9.6
24	11	7.0	6.0	6.0	5.5	4.5	10	78	116	34	15	9.2
25	12	6.5	6.0	6.0	5.5	4.5	9.9	79	115	32	14	9.4
26	12	6.5	6.0	6.0	5.5	4.5	8.3	87	111	31	14	9.3
27	9.8	6.5	6.0	6.0	5.5	4.5	8.3	122	109	30	14	9.2
28	9.9	6.5	6.0	6.0	5.5	4.5	9.0	123	106	30	13	9.0
29	9.8	6.5	6.0	5.5	---	4.5	8.6	127	103	28	12	8.7
30	9.6	6.5	6.0	5.5	---	4.5	8.6	116	99	27	12	7.9
31	9.6	---	6.0	5.5	---	4.5	---	112	---	25	12	---
TOTAL	246.9	229.9	189.0	184.5	154.0	142.0	224.6	1298.1	3582	1714	623	294.4
MEAN	7.96	7.66	6.10	5.95	5.50	4.58	7.49	41.9	119	55.3	20.1	9.81
MAX	12	9.8	6.5	6.0	5.5	5.5	12	127	150	100	36	13
MIN	6.4	6.5	6.0	5.5	5.5	4.5	4.5	9.1	95	25	12	7.9
AC-FT	490	456	375	366	305	282	445	2570	7100	3400	1240	584

WTR YR 1979 TOTAL 8882.4 MEAN 24.3 MAX 150 MIN 4.5 AC-FT 17620

NOTE.--NO GAGE-HEIGHT RECORD NOV. 19 TO APR. 18.

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06694700 FOURMILE CREEK NEAR FAIRPLAY, CO

LOCATION.--Lat 39°11'04", long 106°03'47", in NE¼NW¼ sec.13, T.10 S., R.78 W., Park County, Hydrologic Unit 10190001, on left bank 1.1 mi (1.8 km) upstream from Peart Upper Ditch, 4.3 mi (6.9 km) southwest of Fairplay, 4.4 mi (7.1 km) upstream from bridge on U.S. Highway 285.

DRAINAGE AREA.--12.0 mi^2 (31.1 km^2).

PERIOD OF RECORD.--May 1978 to current year.

GAGE.--Water stage recorder. Altitude of gage is 10,250 ft (3,124 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Several observations of specific conductance and water temperature were obtained and are publisred elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 152 ft^3/s (4.30 m^3/s) June 15, 1979, gage height, 2.83 ft (0.863 m); maximum gage height, 2.85 ft (0.869 m) June 17, 1979; minimum daily discharge, 1.4 ft^3/s (0.040 m^3/s) Jan. 31, 1979.

EXTREMES FOR CURRENT YEAR.-Maximum discharge, 152 ft^3/s (4.30 m^3/s) at 2230 June 15, gage height, 2.83 ft (0.863 m); maximum gage height, 2.85 ft (0.869 m) at 0130 June 17; minimum daily discharge, 1.4 ft^3/s (0.040 m^3/s) Jan. 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.7	4.2	2.0	2.0	1.5	2.0	2.0	3.3	29	62	20	9.4
2	4.7	4.5	2.0	1.5	1.5	2.0	2.0	3.7	27	53	19	9.1
3	4.5	3.5	2.0	1.5	1.5	2.0	2.0	3.8	28	46	18	9.1
4	4.5	4.0	2.0	1.5	1.5	2.0	2.0	6.7	31	46	18	8.8
5	4.5	3.3	2.0	1.5	1.5	2.0	2.0	3.8	36	51	17	8.4
6	4.5	3.8	2.0	1.5	1.5	2.0	2.0	4.5	50	57	16	8.4
7	4.5	4.8	2.0	1.5	1.5	2.0	2.0	4.4	64	55	16	8.1
8	4.5	3.8	2.0	1.5	1.5	2.0	2.5	4.0	53	51	16	8.1
9	4.5	3.7	2.0	1.5	1.5	2.0	2.5	3.8	49	47	16	7.8
10	4.2	3.4	2.0	1.5	1.5	2.0	2.5	4.4	40	45	16	8.1
11	4.2	3.0	2.0	1.5	1.5	2.0	2.5	3.8	38	43	15	8.1
12	4.2	3.2	2.0	1.5	1.5	2.0	2.5	3.7	43	42	14	7.8
13	4.1	3.0	2.0	1.5	1.5	2.0	2.5	4.0	64	44	14	7.8
14	4.4	2.4	2.0	1.5	1.5	2.0	2.5	4.5	85	44	21	8.1
15	4.1	2.3	2.0	1.5	1.5	2.0	3.0	5.0	115	42	27	7.8
16	4.1	2.3	2.0	1.5	1.5	2.0	3.0	5.4	135	38	21	7.5
17	4.1	2.3	2.0	1.5	1.5	2.0	3.0	6.1	120	38	19	7.2
18	4.2	2.3	2.0	1.5	2.0	2.0	3.4	7.2	96	36	20	6.9
19	4.2	2.1	2.0	1.5	2.0	2.0	3.1	8.5	75	33	18	6.9
20	4.1	2.1	2.0	1.5	2.0	2.0	3.5	8.4	54	32	17	7.8
21	4.1	2.0	2.0	1.5	2.0	2.0	3.3	8.6	53	32	16	8.4
22	4.7	2.0	2.0	1.5	2.0	2.0	3.3	10	64	37	15	7.5
23	4.0	2.0	2.0	1.5	2.0	2.0	3.5	12	71	31	14	7.2
24	4.0	2.0	2.0	1.5	2.0	2.0	3.7	17	75	30	13	6.9
25	4.0	2.0	2.0	1.5	2.0	2.0	3.4	22	68	29	12	6.9
26	4.0	2.0	2.0	1.5	2.0	2.0	3.7	24	62	28	12	6.9
27	4.0	2.0	2.0	1.5	2.0	2.0	3.3	32	69	27	12	6.9
28	4.0	2.0	2.0	1.5	2.0	2.0	3.3	54	72	26	11	6.7
29	4.0	2.0	2.0	1.5	---	2.0	3.3	57	71	24	11	6.5
30	4.0	2.0	2.0	1.5	---	2.0	3.2	42	62	23	11	6.3
31	3.8	---	2.0	1.4	---	2.0	---	33	---	22	10	---
TOTAL	131.4	84.0	62.0	46.9	47.5	62.0	84.[illegible]	410.6	1899	1214	495	231.4
MEAN	4.24	2.80	2.00	1.51	1.70	2.00	2.82	13.2	63.3	39.2	16.0	7.71
MAX	4.7	4.8	2.0	2.0	2.0	2.0	3.7	57	135	62	27	9.4
MIN	3.8	2.0	2.0	1.4	1.5	2.0	2.0	3.3	27	22	10	6.3
AC-FT	261	167	123	93	94	123	168	814	3770	2410	982	459

WTR YR 1979 TOTAL 4768.3 MEAN 13.1 MAX 135 MIN 1.4 AC-FT 9460

NOTE.--NO GAGE-HEIGHT RECORD NOV. 21 TO APR. 18.

06695000 SOUTH PLATTE RIVER ABOVE ELEVENMILE CANYON RESERVOIR, NEAR HARTSEL, CO

LOCATION.--Lat 38°58'03", long 105°34'51", in NE¼ sec.32, T.12 S., R.73 W., Park County, Hydrologic Unit 10190001, on left bank 200 ft (60 m) downstream from highway bridge, 2.5 mi (4.0 km) upstream from water line of Elevenmile Canyon Reservoir at elevation 8,561 ft (2,609 m), and 13 mi (21 km) southeast of Hartsel.

DRAINAGE AREA.--880 mi^2 (2,279 km^2).

PERIOD OF RECORD.--June 1933 to current year (no winter records prior to 1940). Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1630: 1958. WSP 1730: Drainage area.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 8,612.83 ft (2,625.191 m) Denver Board of Water Commissioners Datum. Prior to May 27, 1939, water-stage recorder near present site at different datum. May 27, 1939, to Nov. 4, 1961, at datum 0.46 ft (0.140 m) lower.

REMARKS.--Records good except those for winter period, which are poor. Flow regulated by Antero Reservoir, capacity, 22,300 acre-ft (27.5 hm^3). Many small diversions above station for irrigation of about 24,000 acres (97.1 km^2). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--40 years (water years 1940-79), 77.1 ft^3/s (2.183 m^3/s), 55,860 acre-ft/yr (68.9 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge not determined, occurred Apr. 28, 1970, gage height, 7.60 ft (2.316 m), from floodmarks; maximum daily, 3,970 ft^3/s (112 m^3/s) Apr. 27, 1970; minimum daily, 0.55 ft^3/s (0.016 m^3/s) Oct. 2-5, 9, 10, 1974.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 716 ft^3/s (20.3 m^3/s) at 2200 June 9, gage height, 3.52 ft (1.073 m); minimum daily, 5.5 ft^3/s (0.16 m^3/s) Jan. 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	15	8.0	6.0	6.0	11	55	23	329	384	132	60
2	9.6	15	9.0	6.0	6.5	11	50	28	282	413	128	54
3	9.0	12	10	7.5	6.5	11	50	51	223	382	123	49
4	7.8	9.6	14	7.5	7.0	10	70	112	199	352	114	48
5	7.8	9.6	20	7.5	6.5	10	95	96	158	342	102	42
6	7.2	7.8	22	7.5	6.0	11	90	79	177	332	86	38
7	7.2	6.6	20	7.0	7.0	13	120	44	230	374	80	37
8	7.2	8.4	18	6.5	8.0	16	120	29	426	369	80	34
9	7.2	7.8	19	6.5	7.0	14	120	31	674	313	95	30
10	7.2	7.2	21	6.5	7.0	13	155	26	684	282	117	27
11	7.2	6.6	22	7.0	7.5	18	149	46	594	262	130	26
12	7.2	8.4	23	8.0	8.0	20	144	51	467	249	141	23
13	6.6	7.8	24	7.5	9.5	20	118	51	347	226	128	21
14	6.6	7.8	24	7.0	12	20	106	46	322	195	105	24
15	6.6	8.4	25	7.0	12	23	106	30	349	183	317	24
16	6.6	7.8	24	7.5	12	27	151	22	387	228	296	23
17	7.2	7.8	23	7.0	12	27	179	21	400	253	262	18
18	7.2	7.8	21	7.0	12	27	160	18	384	278	280	16
19	7.2	7.8	16	7.0	12	25	142	18	359	344	282	16
20	7.8	7.8	11	7.0	13	25	118	24	322	306	245	17
21	8.4	8.4	9.0	7.5	13	35	89	42	276	289	189	36
22	12	7.8	7.5	7.5	13	35	79	35	253	271	144	37
23	14	7.8	7.0	7.0	12	32	52	26	276	271	128	30
24	13	8.4	7.5	7.0	10	32	45	26	369	221	112	30
25	15	7.8	7.5	7.0	9.0	40	43	43	364	191	101	30
26	12	8.4	6.5	7.0	9.5	40	38	65	377	179	95	29
27	10	7.2	6.5	6.5	10	54	35	73	361	175	96	29
28	16	6.6	6.5	6.0	10	60	34	109	372	181	86	29
29	18	7.0	7.0	6.0	---	70	34	193	374	173	77	29
30	16	7.0	7.0	6.5	---	65	26	256	382	160	69	28
31	15	---	6.5	5.5	---	60	---	397	---	144	69	---
TOTAL	299.8	253.4	452.5	214.0	264.0	875	2773	2111	10717	8322	4489	934
MEAN	9.67	8.45	14.6	6.90	9.43	28.2	92.4	68.1	357	268	145	31.1
MAX	18	15	25	8.0	13	70	179	397	684	413	317	60
MIN	6.6	6.6	6.5	5.5	6.0	10	26	18	158	144	69	16
AC-FT	595	503	898	424	524	1740	5500	4190	21260	16510	8900	1850

CAL YR 1978 TOTAL 12498.6 MEAN 34.2 MAX 264 MIN 2.0 AC-FT 24790
WTR YR 1979 TOTAL 31704.7 MEAN 86.9 MAX 684 MIN 5.5 AC-FT 62890

NOTE.--NO GAGE-HEIGHT RECORD DEC. 13 TO APR. 9.

06696000 SOUTH PLATTE RIVER NEAR LAKE GEORGE. CO

LOCATION.--Lat 38°56'19". long 105°28'22". in SW¼ sec.20. T.13 S.. R.72 W.. Park County. Hydrologic Unit 10190001. on left bank 700 ft (210 m) downstream from Elevenmile Canyon Reservoir and 8.2 mi (13.2 km) southwest of town of Lake George.

DRAINAGE AREA.--963 mi² (2.494 km²).

PERIOD OF RECORD.--October 1929 to current year. Monthly discharge only for some periods. published in WSP 1310.

REVISED RECORDS.--WSP 1730: Drainage area.

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 8.458 ft (2.578.0 m). from topographic map. Prior to Oct. 26. 1940. at site 1 mi (1.6 km) downstream at datum 8.423.95 ft (2.567.620 m) National Geodetic Vertical Datum. adjustment of 1912.

REMARKS.--Records excellent. Natural flow of stream affected by transmountain diversions through East and West Hoosier ditches at Hoosier Pass prior to 1941. storage in Elevenmile Canyon Reservoir (see elsewhere in this report) and Antero Reservoir. capacity. 22.300 acre-ft (27.5 hm³). diversions for irrigation. and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--50 years. 72.0 ft³/s (2.039 m³/s). 52.160 acre-ft/yr (64.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge. about 3.000 ft³/s (85 m³/s) Apr. 28. 1970. gage height. 8.34 ft (2.542 m). from floodmarks. by computation of outflow from Elevenmile Canyon Reservoir; no flow at times in January 1930. February 1931. and November 1935.

EXTREMES FOR CURRENT YEAR.--Maximum discharge. 628 ft³/s (17.8 m³/s) at 1830 June 11. gage height. 4.43 ft (1.350 m); minimum daily. 2.8 ft³/s (0.08 m³/s) Nov. 3-6.

DISCHARGE. IN CUBIC FEET PER SECOND. WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	68	8.2	4.8	32	38	68	108	36	14	372	104	59
2	65	3.1	4.8	34	19	66	108	33	15	387	118	49
3	64	2.8	4.8	36	19	64	108	12	16	449	117	49
4	65	2.8	4.8	36	15	64	108	13	16	564	143	48
5	65	2.8	15	36	10	64	108	12	16	533	140	50
6	65	2.8	26	36	5.9	41	108	12	98	512	115	50
7	64	3.1	26	36	3.7	32	108	12	119	523	93	50
8	64	3.4	26	40	3.7	25	108	13	14	533	77	50
9	64	3.4	26	42	3.7	21	138	13	14	527	77	50
10	64	3.1	26	42	3.7	21	170	13	26	500	77	51
11	64	3.1	26	42	3.7	21	249	13	364	465	77	46
12	64	3.1	21	45	3.7	21	270	13	619	437	112	40
13	64	3.1	17	47	3.7	21	192	13	324	413	159	40
14	64	3.4	20	47	4.1	21	164	13	71	392	228	40
15	64	3.4	25	47	4.1	21	170	14	104	381	305	40
16	64	3.1	25	47	15	30	160	37	143	285	334	40
17	64	3.1	24	50	30	41	155	50	184	241	337	44
18	64	3.1	24	52	31	41	178	44	221	285	302	44
19	64	3.4	24	52	30	41	191	40	252	344	283	44
20	64	3.4	24	52	30	69	185	40	255	372	282	44
21	65	3.4	24	52	30	92	166	40	265	372	277	44
22	65	3.1	24	52	30	120	109	40	265	323	221	43
23	65	3.1	24	52	30	145	70	40	265	268	156	43
24	65	3.1	24	52	30	145	70	33	302	246	136	43
25	65	3.1	24	52	30	145	62	40	319	147	115	44
26	65	3.1	24	52	30	112	53	45	335	92	100	44
27	65	3.1	24	52	43	92	49	45	346	92	101	44
28	65	4.1	24	52	61	93	49	51	352	93	101	44
29	65	4.8	28	52	---	95	50	95	359	95	100	44
30	65	4.8	32	52	---	104	50	201	364	93	101	44
31	54	---	32	52	---	108	---	119	---	92	88	---
TOTAL	1992	103.4	678.2	1423	561.0	2044	3814	1195	6057	10428	4976	1365
MEAN	64.3	3.45	21.9	45.9	20.0	65.9	127	38.5	202	336	161	45.5
MAX	68	8.2	32	52	61	145	270	201	619	564	337	59
MIN	54	2.8	4.8	32	3.7	21	49	12	14	92	77	40
AC-FT	3950	205	1350	2820	1110	4050	7570	2370	12010	20680	9870	2710

CAL YR 1978 TOTAL 11459.7 MEAN 31.4 MAX 140 MIN 2.5 AC-FT 22730
WTR YR 1979 TOTAL 34636.6 MEAN 94.9 MAX 619 MIN 2.8 AC-FT 68700

06696980 TARRYALL CREEK AT UPPER STATION, NEAR COMO, CO

LOCATION.--Lat 39°20'22", long 105°54'37", in NW¼SE¼ sec.20, T.8 S., R.76 W., Park County, Hydrologic Unit 10190001, on right bank 100 ft (30 m) downstream from culvert on county road 1.8 mi (2.9 km) northwest of Como.

DRAINAGE AREA.--23.7 mi² (61.4 km²).

PERIOD OF RECORD.--June 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 9,930 ft (3,027 m), from topographic map.

REMARKS.--Records fair except those for winter period, which are poor. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 159 ft³/s (4.50 m³/s) June 15, 1978, gage height, 2.98 ft (0.908 m); minimum daily, 2.0 ft³/s (0.057 m³/s) Jan. 31, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 146 ft³/s (4.13 m³/s) at 2300 June 16, gage height, 2.88 ft (0.878 m); minimum daily, 2.0 ft³/s (0.057 m³/s) Jan. 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.5	6.5	6.0	4.0	2.5	3.5	4.0	11	80	83	20	14
2	7.2	6.5	6.0	3.0	2.5	3.5	4.0	11	73	78	18	13
3	7.2	6.5	6.0	3.0	2.5	3.5	4.0	9.8	72	73	18	13
4	7.2	6.5	6.0	3.0	2.5	3.5	4.0	9.8	78	68	16	12
5	7.0	7.0	6.0	3.0	2.5	3.5	4.0	12	88	64	15	12
6	7.0	6.5	6.0	3.0	2.5	3.5	5.0	13	99	63	14	12
7	7.0	6.0	6.0	3.0	2.5	3.5	5.0	13	120	59	14	12
8	7.0	6.0	5.0	2.5	2.5	3.5	5.0	12	105	54	14	12
9	7.0	6.0	5.0	2.5	2.5	3.5	5.0	11	94	51	16	12
10	6.8	6.0	5.0	2.5	2.5	3.5	5.0	10	94	49	18	11
11	6.8	6.0	5.0	2.5	2.5	3.5	5.0	10	102	46	15	11
12	6.8	6.0	5.0	2.5	2.5	4.0	5.0	11	104	45	14	11
13	6.5	6.0	5.0	2.5	3.5	4.0	5.0	12	116	43	16	11
14	6.5	6.0	5.0	2.5	3.5	4.0	5.0	16	126	41	24	11
15	6.3	6.0	5.0	2.5	3.5	4.0	6.0	20	128	42	24	10
16	6.3	6.0	5.0	2.5	3.5	4.0	7.0	24	129	40	26	10
17	6.0	6.0	5.0	2.5	3.5	4.0	7.7	28	132	38	25	9.8
18	6.0	6.0	5.0	2.5	3.5	4.0	8.7	35	121	36	25	9.8
19	6.0	6.0	5.0	2.5	3.5	4.0	9.0	37	111	34	24	9.8
20	6.0	6.0	5.0	2.5	3.5	4.0	8.7	37	99	32	21	10
21	6.5	6.0	5.0	2.5	3.5	4.0	8.7	37	93	32	19	9.5
22	7.0	6.0	5.0	2.5	3.5	4.0	9.0	42	92	30	19	8.7
23	6.5	6.0	5.0	2.5	3.5	4.0	9.8	48	93	28	19	8.5
24	7.0	6.0	5.0	2.5	3.5	4.0	11	53	94	27	18	8.2
25	7.0	6.0	5.0	2.5	3.5	4.0	10	62	92	26	18	8.2
26	6.5	6.0	5.0	2.5	3.5	4.0	10	69	90	25	18	8.2
27	6.5	6.0	5.0	2.5	3.5	4.0	10	78	89	25	17	8.2
28	6.5	6.0	5.0	2.5	3.5	4.0	10	94	88	24	16	7.9
29	6.5	6.0	5.0	2.5	---	4.0	10	109	88	22	15	7.9
30	6.5	6.0	5.0	2.5	---	4.0	11	109	86	21	15	7.9
31	6.5	---	5.0	2.0	---	4.0	---	94	---	20	14	---
TOTAL	207.1	183.5	162.0	81.5	86.0	118.5	211.6	1137.6	2976	1319	565	309.6
MEAN	6.68	6.12	5.23	2.63	3.07	3.82	7.05	36.7	99.2	42.5	18.2	10.3
MAX	7.5	7.0	6.0	4.0	3.5	4.0	11	109	132	83	26	14
MIN	6.0	6.0	5.0	2.0	2.5	3.5	4.0	9.8	72	20	14	7.9
AC-FT	411	364	321	162	171	235	420	2260	5900	2620	1120	614

WTR YR 1979 TOTAL 7357.4 MEAN 20.2 MAX 132 MIN 2.0 AC-FT 14590

06697450 MICHIGAN CREEK ABOVE JEFFERSON, CO

LOCATION.--Lat 39°21'32", long 105°50'27", in SW¼NW¼ sec.13, T.8 S., R.76 W., Park County, Hydrologic Unit 10190001, on left bank 1.1 mi (1.8 km) upstream from bridge on U.S. Highway 285 and 2.6 mi (4.2 km) southwest of Jefferson.

DRAINAGE AREA.--23.1 mi² (59.8 km²).

PERIOD OF RECORD.--June 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 9,521 ft (2,902 m), from topographic map.

REMARKS.--Records good except those for winter period and those for period of backwater from beaver dam Aug. 30 to Sept. 30, which are poor. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 121 ft³/s (3.43 m³/s) June 10, 1979, gage height, 2.11 ft (0.643 m); minimum daily, 1.5 ft³/s (0.042 m³/s) Jan. 31, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 121 ft³/s (3.43 m³/s) at 2000 June 10, gage height, 2.11 ft (0.643 m); minimum daily, 1.5 ft³/s (0.042 m³/s) Jan. 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	4.8	4.0	3.0	2.0	2.0	4.0	6.0	33	57	18	9.0
2	5.0	4.8	4.0	2.5	2.0	2.0	4.0	6.0	28	53	17	8.2
3	5.0	4.6	4.0	2.5	2.0	2.0	4.0	5.9	24	53	16	8.2
4	4.8	4.4	4.0	2.5	2.0	2.0	4.0	7.0	27	50	15	7.6
5	4.6	4.6	4.0	2.5	2.0	2.0	4.0	10	33	42	14	7.6
6	4.5	4.2	4.0	2.5	2.0	2.0	5.0	9.9	42	43	13	7.6
7	4.5	4.0	4.0	2.5	2.0	3.0	6.0	8.5	63	40	12	7.6
8	4.3	4.0	4.0	2.0	2.0	3.0	6.0	7.2	70	36	12	7.6
9	4.3	4.0	4.0	2.0	2.0	3.0	6.0	5.9	58	35	13	7.6
10	4.4	4.0	4.0	2.0	2.0	3.0	6.0	5.2	63	30	15	7.0
11	4.4	4.0	4.0	2.0	2.0	3.0	6.0	5.9	66	26	13	7.0
12	4.4	4.0	4.0	2.0	2.0	4.0	6.0	6.4	52	24	12	7.0
13	3.9	4.0	4.0	2.0	2.0	4.0	6.0	7.8	56	24	12	7.0
14	3.9	4.0	4.0	2.0	2.0	4.0	6.0	11	68	23	22	6.8
15	4.0	4.0	4.0	2.0	2.0	4.0	8.0	11	77	25	22	6.4
16	4.0	4.0	4.0	2.0	2.0	4.0	13	12	79	25	18	6.4
17	4.0	4.0	4.0	2.0	2.0	4.0	25	14	80	22	18	6.4
18	4.2	4.0	4.0	2.0	2.0	4.0	25	15	75	21	23	6.4
19	4.4	4.0	4.0	2.0	2.0	4.0	20	17	67	19	22	6.4
20	4.2	4.0	4.0	2.0	2.0	4.0	10	17	55	17	20	6.2
21	4.4	4.0	4.0	2.0	2.0	4.0	10	17	51	17	16	5.8
22	4.6	4.0	4.0	2.0	2.0	4.0	10	20	50	17	14	5.4
23	4.6	4.0	4.0	2.0	2.0	4.0	10	20	55	17	13	5.2
24	4.6	4.0	4.0	2.0	2.0	4.0	10	24	58	16	12	5.0
25	4.6	4.0	4.0	2.0	2.0	4.0	8.0	28	57	16	12	5.0
26	4.6	4.0	4.0	2.0	2.0	4.0	7.0	30	55	16	11	5.0
27	4.6	4.0	4.0	2.0	2.0	4.0	6.0	32	53	17	10	5.0
28	4.6	4.0	4.0	2.0	2.0	4.0	6.0	42	53	21	9.2	5.0
29	4.8	4.0	4.0	2.0	---	4.0	6.0	45	53	20	8.8	4.5
30	4.8	4.0	4.0	2.0	---	4.0	6.0	50	53	20	9.0	4.5
31	4.8	---	4.0	1.5	---	4.0	---	46	---	19	9.0	---
TOTAL	138.8	123.4	124.0	65.5	56.0	107.0	253.0	542.7	1654	861	451.0	194.4
MEAN	4.48	4.11	4.00	2.11	2.00	3.45	8.43	17.5	55.1	27.8	14.5	6.48
MAX	5.0	4.8	4.0	3.0	2.0	4.0	25	50	80	57	23	9.0
MIN	3.9	4.0	4.0	1.5	2.0	2.0	4.0	5.2	24	16	8.8	4.5
AC-FT	275	245	246	130	111	212	502	1080	3280	1710	895	386

WTR YR 1979 TOTAL 4570.8 MEAN 12.5 MAX 80 MIN 1.5 AC-FT 9070

NOTE.--NO GAGE-HEIGHT RECORD NOV. 7 TO MAY 2.

06698000 JEFFERSON CREEK NEAR JEFFERSON, CO

LOCATION.--Lat 39°23'34", long 105°48'38", in SE¼SE¼ sec.31, T.7 S., R.75 W., Park County, Hydrologic Unit 10190001, on right bank 1.2 mi (1.9 km) northwest of Jefferson and 1.3 mi (2.1 km) upstream from bridge on U.S. Highway 285.

DRAINAGE AREA.--11.8 mi² (30.6 km²).

PERIOD OF RECORD.--May 1978 to current year.

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 9,600 ft (2,926 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 48 ft³/s (1.36 m³/s) June 24, 1978, gage height, 1.38 ft (0.421 m); no flow Jan. 28 to Apr. 5, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 39 ft³/s (1.104 m³/s) at 0230 Aug. 14, gage height, 1.23 ft (0.375 m); no flow Jan. 28 to Apr. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.5	1.2	2.0	1.0	.00	.00	.00	1.0	9.5	26	38	5.4
2	3.1	1.2	2.0	.90	.00	.00	.00	1.1	7.8	25	36	4.7
3	2.9	1.2	2.0	.90	.00	.00	.00	.90	8.1	23	35	4.0
4	3.3	1.2	2.0	.90	.00	.00	.00	1.0	8.1	22	34	3.8
5	3.8	1.4	2.0	.90	.00	.00	.00	1.3	8.1	17	33	3.5
6	4.0	1.3	2.0	.90	.00	.00	.20	1.6	14	15	32	3.5
7	3.1	2.0	2.0	.90	.00	.00	.30	1.7	20	13	31	3.1
8	1.9	2.0	2.0	.90	.00	.00	.40	1.4	20	10	30	2.9
9	1.9	2.0	2.0	.70	.00	.00	.60	1.0	15	8.9	30	2.9
10	1.9	2.0	2.0	.70	.00	.00	.60	1.1	14	7.5	30	2.7
11	1.6	2.0	2.0	.60	.00	.00	.60	1.0	16	7.0	28	2.9
12	1.6	2.0	2.0	.60	.00	.00	.60	1.0	18	6.7	27	2.7
13	1.6	2.0	2.0	.60	.00	.00	.60	1.0	24	6.4	28	2.6
14	1.4	2.0	2.0	.60	.00	.00	.60	1.3	28	6.2	37	2.6
15	1.4	2.0	2.0	.60	.00	.00	.60	1.4	32	6.7	32	2.6
16	1.6	2.0	2.0	.60	.00	.00	.60	1.6	32	6.2	30	2.6
17	3.1	2.0	2.0	.60	.00	.00	.60	1.0	33	5.9	29	2.2
18	2.2	2.0	2.0	.60	.00	.00	.60	1.7	31	6.7	29	2.2
19	2.0	2.0	2.0	.60	.00	.00	.60	2.7	28	18	29	2.4
20	1.9	2.0	2.0	.60	.00	.00	.60	2.4	23	21	27	2.6
21	1.9	2.0	1.5	.60	.00	.00	.60	2.2	23	21	25	3.3
22	2.9	2.0	1.5	.60	.00	.00	.60	3.5	23	21	24	2.7
23	2.9	2.0	1.5	.60	.00	.00	.80	5.2	25	21	23	2.6
24	2.4	2.0	1.5	.50	.00	.00	1.0	8.6	27	20	22	2.4
25	2.2	2.0	1.5	.40	.00	.00	1.0	10	28	20	22	2.9
26	2.2	2.0	1.5	.30	.00	.00	1.0	8.9	27	24	21	2.7
27	2.2	2.0	1.5	.20	.00	.00	1.0	11	26	28	20	3.1
28	1.7	2.0	1.5	.00	.00	.00	1.0	18	25	34	20	3.1
29	1.6	2.0	1.5	.00	---	.00	1.0	22	27	33	19	2.9
30	1.4	2.0	1.5	.00	---	.00	1.0	21	27	33	16	2.9
31	1.3	---	1.5	.00	---	.00	---	14	---	36	7.0	---
TOTAL	71.5	55.5	56.5	17.90	.00	.00	17.10	151.60	647.6	549.2	844.0	90.5
MEAN	2.31	1.85	1.82	.58	.000	.000	.57	4.89	21.6	17.7	27.2	3.02
MAX	4.5	2.0	2.0	1.0	.00	.00	1.0	22	33	36	38	5.4
MIN	1.3	1.2	1.5	.00	.00	.00	.00	.90	7.8	5.9	7.0	2.2
AC-FT	142	110	112	36	.00	.00	34	301	1280	1090	1670	180

WTR YR 1979 TOTAL 2501.40 MEAN 6.85 MAX 38 MIN .00 AC-FT 4960

NOTE.--NO GAGE-HEIGHT RECORD NOV. 7 TO MAY 2.

06698500 TARRYALL CREEK NEAR JEFFERSON, CO

LOCATION.--Lat 39°17'42", long 105°43'05", in NE¼SE¼ sec.1, T.9 S., R.75 W., Park County, Hydrologic Unit 10190001, on left bank 0.6 mi (1.0 km) downstream from Michigan Creek and 7.2 mi (11.6 km) southeast of Jefferson.

DRAINAGE AREA.--183 mi² (474 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1977 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 9,050 ft (2,758 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Diversions for irrigation of a few acres of hay meadows above gage.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, not determined June 7, 1979, gage height, 6.70 ft (2.04 m); minimum daily discharge, 0.50 ft³/s (0.014 m³/s) Jan. 2, Feb. 11 to Mar. 7.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, not determined, gage height, 6.70 ft (2.04 m); minimum daily, 0.50 ft³/s (0.014 m³/s) Jan. 2, Feb. 11 to Mar. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.4	12	6.0	1.5	1.5	.50	11	34	164	162	70	28
2	8.0	11	6.5	.50	1.5	.50	10	41	95	178	66	26
3	7.1	11	5.0	1.0	1.5	.50	10	40	67	153	62	25
4	6.7	9.5	5.0	1.5	1.0	.50	14	52	54	154	59	24
5	6.7	11	7.0	2.0	1.0	.50	21	86	53	131	57	21
6	7.5	8.7	6.0	2.0	1.0	.50	20	76	60	147	59	18
7	7.8	7.2	4.0	1.5	1.0	.50	35	49	160	204	57	17
8	7.2	10	3.5	1.0	1.0	1.0	35	47	418	126	54	16
9	6.7	8.6	4.0	1.5	1.0	1.0	35	52	382	92	62	16
10	6.4	7.9	4.5	2.0	1.0	1.0	60	46	361	73	73	16
11	6.4	9.7	5.5	2.0	.50	2.0	55	52	373	59	70	15
12	6.2	10	7.0	2.5	.50	2.5	50	46	300	53	60	16
13	5.8	5.9	8.0	1.5	.50	2.5	45	41	213	52	62	15
14	5.8	5.0	7.0	1.0	.50	2.5	40	43	186	44	112	15
15	5.9	5.0	7.5	2.0	.50	3.0	50	31	207	39	143	14
16	5.9	5.0	6.5	2.0	.50	3.5	60	24	215	54	98	14
17	6.7	5.5	6.5	1.0	.50	3.5	70	18	212	48	84	13
18	7.3	6.0	7.0	1.5	.50	3.5	80	16	201	47	118	13
19	8.0	6.0	7.5	1.5	.50	3.0	70	21	195	55	123	14
20	8.5	6.5	6.0	1.5	.50	3.0	60	28	177	57	95	14
21	8.6	6.5	5.0	1.5	.50	4.5	50	30	147	53	78	22
22	13	6.5	5.5	2.0	.50	4.5	45	25	121	65	67	18
23	13	6.5	5.5	1.5	.50	4.0	51	26	124	56	61	16
24	16	6.5	4.5	1.0	.50	4.0	50	29	143	57	57	15
25	21	7.0	5.0	1.5	.50	7.0	48	41	141	54	56	14
26	15	6.5	3.5	1.5	.50	7.0	35	60	138	50	55	15
27	16	5.0	3.5	1.0	.50	10	34	60	130	52	52	17
28	14	5.5	4.0	1.0	.50	12	35	75	120	75	47	17
29	13	6.5	3.0	1.0	---	14	32	88	120	66	43	15
30	12	6.0	3.0	1.0	---	13	32	146	120	64	41	14
31	12	---	2.5	1.0	---	12	---	228	---	58	37	---
TOTAL	292.6	224.0	165.0	45.00	20.50	127.50	1243	1651	5397	2578	2178	513
MEAN	9.44	7.47	5.32	1.45	.73	4.11	41.4	53.3	180	83.2	70.3	17.1
MAX	21	12	8.0	2.5	1.5	14	80	228	418	204	143	28
MIN	5.8	5.0	2.5	.50	.50	.50	10	16	53	39	37	13
AC-FT	580	444	327	89	41	253	2470	3270	10700	5110	4320	1020

CAL YR 1978 TOTAL 10875.00 MEAN 29.8 MAX 229 MIN 1.5 AC-FT 21570
WTR YR 1979 TOTAL 14434.60 MEAN 39.5 MAX 418 MIN .50 AC-FT 28630

NOTE.--NO GAGE-HEIGHT RECORD JAN. 8 TO APR. 10.

06698500 TARRYALL CREEK NEAR JEFFERSON, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1977 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	TEMPERATURE (DEG C)
OCT		
04...	1150	6.5
05...	1450	11.5
18...	0930	4.5
NOV		
01...	1035	3.0
16...	1050	.0
22...	1040	.0
DEC		
11...	1115	.0
13...	1105	.5
JAN		
04...	0940	.0
19...	1000	.0
FEB		
14...	1100	.0
MAR		
07...	1005	.5
15...	1050	.0
28...	0910	.5
APR		
10...	1030	.0
24...	1205	8.5
27...	1040	9.5
MAY		
02...	0915	4.0
10...	1130	4.0
17...	1030	9.5
26...	1355	14.5
30...	1250	5.5
JUN		
14...	1125	12.5
25...	1030	12.5
25...	1220	14.0
JUL		
12...	1045	16.0
23...	1015	15.0
23...	1310	17.0
AUG		
07...	1035	14.0
22...	1455	15.5
23...	0900	9.5
SEP		
05...	1135	14.0
25...	1130	13.0

06698500 TARRYALL CREEK NEAR JEFFERSON, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)
OCT 05...	1450	6.8	140	8.4	11.5	--	8.2	56	K2	K11	63
NOV 16...	1050	5.5	200	8.2	.0	--	10.3	6	<1	<1	98
DEC 11...	1115	4.5	190	7.4	.0	--	10.7	17	K8	K12	84
JAN 19...	1000	4.0	260	7.7	.0	--	10.8	10	K3	K19	120
FEB 14...	1100	1.5	420	7.8	.0	--	10.2	37	K7	--	200
MAR 15...	1050	1.5	330	7.7	.0	--	9.4	30	K20	23	160
APR 27...	1040	26	240	8.1	9.5	1.0	8.4	76	<1	K3	98
MAY 26...	1355	75	330	8.2	14.5	--	8.0	48	25	49	160
JUN 25...	1030	151	245	8.3	12.5	--	7.0	22	--	34	110
JUL 23...	1015	60	290	8.1	15.0	--	7.5	17	35	56	140
AUG 23...	0900	66	120	8.5	9.5	--	8.0	10	K8	K19	64
SEP 25...	1130	17	180	8.3	13.0	--	7.9	95	K4	K6	79

DATE	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
OCT 05...	1	19	3.8	4.0	.2	.9	76	0	62	8.3	.6
NOV 16...	16	29	6.1	5.5	.2	1.1	100	0	82	23	1.0
DEC 11...	9	25	5.2	4.6	.2	1.3	91	0	75	19	.7
JAN 19...	18	33	8.2	10	.4	2.3	120	0	98	40	5.0
FEB 14...	50	56	14	13	.4	3.1	180	0	150	66	2.5
MAR 15...	40	44	11	9.8	.3	3.2	140	0	110	55	2.1
APR 27...	17	27	7.3	8.7	.4	1.9	98	0	80	30	1.5
MAY 26...	32	44	11	11	.4	2.0	150	0	120	39	.1
JUN 25...	0	31	7.3	6.1	.3	.8	140	0	110	19	.6
JUL 23...	0	39	9.3	9.5	.4	.9	170	0	140	16	.8
AUG 23...	8	19	4.1	3.6	.2	.8	69	0	57	17	.6
SEP 25...	13	24	4.7	4.0	.2	1.5	80	--	66	13	.4

K BASED ON NON-IDEAL COLONY COUNT.

06698500 TARRYALL CREEK NEAR JEFFERSON, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)
OCT										
05...	.1	9.0	86	84	.12	1.58	.00	.01	.27	.28
NOV										
16...	.1	11	134	126	.18	1.99	.01	.01	.52	.53
DEC										
11...	.1	11	120	112	.16	1.46	.02	.01	.09	.10
JAN										
19...	.2	16	174	174	.24	1.88	.07	.02	.00	.02
FEB										
14...	.2	14	267	258	.36	1.08	.10	.02	.40	.42
MAR										
15...	.2	12	207	206	.28	.84	.01	.01	.41	.42
APR										
27...	.2	11	154	136	.21	11.0	.02	.01	.29	.30
MAY										
26...	.3	13	209	195	.28	42.3	.01	.02	.77	.79
JUN										
25...	.2	13	156	147	.21	63.6	.01	.01	1.1	1.1
JUL										
23...	.3	12	178	172	.24	28.9	.00	.04	.43	.47
AUG										
23...	.2	8.3	76	88	.10	13.6	.00	.00	.10	.10
SEP										
25...	.1	8.4	92	96	.13	4.42	.03	.01	.45	.46

DATE	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DISSOLVED (MG/L AS P)	BORON, DISSOLVED (UG/L AS B)	IRON, DISSOLVED (UG/L AS FE)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C)	PHYTOPLANKTON, TOTAL (CELLS PER ML)	PERIPHYTON BIOMASS ASH WEIGHT G/SQ M	PERIPHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M
OCT										
05...	.28	.010	.010	120	260	3.0	.2	1700	--	--
NOV										
16...	.54	.010	.030	40	130	1.8	.3	43	--	--
DEC										
11...	.12	.020	.020	40	150	2.8	.2	200	--	--
JAN										
19...	.09	.040	.030	170	220	6.4	.3	31	--	--
FEB										
14...	.52	.050	.050	30	100	8.3	.4	35	--	--
MAR										
15...	.43	.030	.030	40	130	8.4	.3	58	--	--
APR										
27...	.32	.010	.020	40	320	7.2	.4	2800	--	--
MAY										
26...	.80	.030	.010	50	110	19	--	520	3.23	3.93
JUN										
25...	1.1	.000	.010	20	110	--	--	1300	--	--
JUL										
23...	.47	.020	.030	40	80	9.3	.2	65	--	--
AUG										
23...	.10	.050	--	20	370	3.5	.6	290	6.34	11.4
SEP										
25...	.49	.030	.020	9	140	2.5	.3	52	--	--

06698500 TARRYALL CREEK NEAR JEFFERSON, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BARIUM, DISSOLVED (UG/L AS BA)	BARIUM, RECOV. FM BOTTOM MATERIAL (UG/G AS BA)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BERYLLIUM, DISSOLVED (UG/L AS BE)	BERYLLIUM, RECOV. FM BOTTOM MATERIAL (UG/G)
OCT											
05...	1450	0	1	0	0	0	0	0	0	0	0
JAN											
19...	1000	20	--	1	--	--	50	--	--	<1	--
APR											
27...	1040	20	1	0	1	0	60	24	0	<1	1
JUL											
23...	1015	20	--	1	--	--	60	--	--	<1	--

DATE	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, DISSOLVED (UG/L AS CO)	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, DISSOLVED (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)
OCT											
05...	0	0	1	0	0	2	0	0	4	0	4
JAN											
19...	--	2	--	--	0	--	--	<3	--	3	--
APR											
27...	1	3	0	0	0	3	0	<3	0	1	2
JUL											
23...	--	3	--	--	0	--	--	<3	--	0	--

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	LITHIUM TOTAL RECOVERABLE (UG/L AS LI)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)
OCT										
05...	8	0	0	2	2	20	0	110	.0	.0
JAN										
19...	--	1	--	--	<4	--	40	--	--	.0
APR										
27...	75	0	0	3	<4	20	20	90	.1	.0
JUL										
23...	--	9	--	--	5	--	20	--	--	.0

06698500 TARRYALL CREEK NEAR JEFFERSON, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	MERCURY RECOV. FM BOT-TOM MA-TERIAL (UG/G AS HG)	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	MOLYB-DENUM, RECOV. FM BOT-TOM MA-TERIAL (UG/G)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	NICKEL, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SELE-NIUM, TOTAL IN BOT-TOM MA-TERIAL (UG/G)
OCT 05...	.00	4	0	3	2	0	6	0	0	0
JAN 19...	--	--	0	--	--	2	--	--	0	--
APR 27...	.02	4	<10	0	0	0	0	1	0	0
JUL 23...	--	--	<10	--	--	0	--	--	0	--

DATE	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	ZINC, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS ZN)	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)
OCT 05...	--	10	10	7	<.8	<.4	1.8	<.4	1.7	<.4
JAN 19...	.6	--	<3	--	--	--	--	--	--	--
APR 27...	.7	20	<3	10	3.1	.5	<.4	2.2	2.0	<.4
JUL 23...	<1.0	--	<3	--	--	--	--	--	--	--

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 05...	1450	6.8	1	.02	--
APR 27...	1040	26	6	.43	--
MAY 26...	1355	75	58	12	43
JUN 25...	1030	151	18	7.3	50
JUL 23...	1015	60	10	1.6	--
AUG 23...	0900	66	10	1.8	--
SEP 25...	1130	17	3	.14	--

06698500 TARRYALL CREEK NEAR JEFFERSON, CO--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1978 TO SEPTEMBER 1979

DATE TIME	OCT 5,78 1450	NOV 16,78 1050	DEC 11,78 1115	JAN 19,79 1000	FEB 14,79 1100	MAR 15,79 1050
TOTAL CELLS/ML	1700	43	200	31	35	58
DIVERSITY: DIVISION	1.4	0.0	0.0	0.0	1.1	0.8
.CLASS	1.4	0.0	0.0	0.0	1.1	0.8
..ORDER	1.6	0.0	0.0	0.0	1.1	0.8
...FAMILY	1.9	0.9	2.0	1.5	1.1	1.5
....GENUS	2.7	0.9	2.4	1.5	1.1	1.5

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)												
.CHLOROPHYCEAE												
..CHLOROCOCCALES												
...HYDRODICTYACEAE												
....PEDIASTRUM	15	1	--	-	--	-	--	-	--	-	--	-
...MICRACTINIACEAE												
....GOLENKINIA	15	1	--	-	--	-	--	-	--	-	--	-
...OOCYSTACEAE												
....ANKISTRODESMUS	--	-	--	-	--	-	--	-	--	-	--	-
....DICTYOSPHAERIUM	31	2	--	-	--	-	--	-	--	-	--	-
....KIRCHNERIELLA	23	1	--	-	--	-	--	-	--	-	--	-
....OOCYSTIS	31	2	--	-	--	-	--	-	--	-	--	-
....TREUBARIA	*	0	--	-	--	-	--	-	--	-	--	-
....TROCHISCIA	--	-	--	-	--	-	--	-	--	-	--	-
....WESTELLA	31	2	--	-	--	-	--	-	--	-	--	-
...SCENEDESMACEAE												
....CRUCIGENIA	62	4	--	-	--	-	--	-	--	-	--	-
....SCENEDESMUS	31	2	--	-	--	-	--	-	--	-	--	-
....TETRASTRUM	31	2	--	-	--	-	--	-	--	-	--	-
..VOLVOCALES												
...CHLAMYDOMONADACEAE												
....CHLAMYDOMONAS	85	5	--	-	--	-	--	-	--	-	14#	25
...PHACOTACEAE												
....PTEROMONAS	--	-	--	-	--	-	--	-	--	-	--	-
CHRYSOPHYTA												
.BACILLARIOPHYCEAE												
..CENTRALES												
...COSCINODISCACEAE												
....CYCLOTELLA	120	7	--	-	--	-	--	-	--	-	--	-
....MELOSIRA	92	5	--	-	--	-	--	-	--	-	--	-
..PENNALES												
...ACHNANTHACEAE												
....ACHNANTHES	--	-	--	-	14	7	--	-	--	-	--	-
....COCCONEIS	*	0	--	-	43#	21	--	-	--	-	--	-
....RHOICOSPHENIA	--	-	--	-	--	-	--	-	--	-	--	-
...CYMBELLACEAE												
....CYMBELLA	--	-	--	-	14	7	--	-	--	-	--	-
....EPITHEMIA	--	-	--	-	43#	21	--	-	--	-	--	-
...FRAGILARIACEAE												
....FRAGILARIA	--	-	--	-	--	-	15#	50	--	-	14#	25
....SYNEDRA	--	-	--	-	58#	29	--	-	--	-	--	-
...GOMPHONEMATACEAE												
....GOMPHONEMA	*	0	--	-	--	-	--	-	--	-	--	-
...MERIDIONACEAE												
....MERIDION	--	-	--	-	--	-	--	-	--	-	--	-
...NAVICULACEAE												
....GYROSIGMA	--	-	--	-	--	-	--	-	--	-	--	-
....NAVICULA	--	-	14#	33	--	-	8#	25	25#	71	--	-
...NITZSCHIACEAE												
....NITZSCHIA	31	2	29#	67	29	14	8#	25	--	-	29#	50
...SURIRELLACEAE												
....CYMATOPLEURA	--	-	--	-	--	-	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)												
.CRYPTOPHYCEAE												
..CRYPTOMONADALES												
...CRYPTOCHRYSIDACEAE												
....CHROOMONAS	*	0	--	-	--	-	--	-	5	14	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)												
.CYANOPHYCEAE												
..CHROOCOCCALES												
...CHROOCOCCACEAE												
....AGMENELLUM	180	11	--	-	--	-	--	-	--	-	--	-
....ANACYSTIS	920#	53	--	-	--	-	--	-	--	-	--	-
..HORMOGONALES												
...OSCILLATORIACEAE												
....LYNGBYA	--	-	--	-	--	-	--	-	--	-	--	-
....OSCILLATORIA	--	-	--	-	--	-	--	-	--	-	--	-
....SCHIZOTHRIX	--	-	--	-	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2%

06698500 TARRYALL CREEK NEAR JEFFERSON, CO--Continued
PHYTOPLANKTON ANALYSES, OCTOBER 1978 TO SEPTEMBER 1979

DATE	OCT 5,78		NOV 16,78		DEC 11,78		JAN 19,79		FEB 14,79		MAR 15,79	
TIME	1450		1050		1115		1000		1100		1050	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
EUGLENOPHYTA (EUGLENOIDS)												
.EUGLENOPHYCEAE												
..EUGLENALES												
...EUGLENACEAE												
....EUGLENA	--	-	--	-	--	-	--	-	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)												
.DINOPHYCEAE												
..GYMNODINIALES												
...GYMNODINIACEAE												
....GYMNODINIUM	--	-	--	-	--	-	--	-	5	14	--	-
..PERIDINIALES												
...GLENODINIACEAE												
....GLENODINIUM	*	0	--	-	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

06698500 TARRYALL CREEK NEAR JEFFERSON, CO--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1978 TO SEPTEMBER 1979

DATE	APR 27,79	MAY 26,79	JUN 25,79	JUL 23,79	AUG 23,79	SEP 25,79
TIME	1040	1355	1030	1015	0900	1130
TOTAL CELLS/ML	2800	520	1300	65	290	52
DIVERSITY: DIVISION	0.7	0.2	0.8	0.0	0.7	0.8
.CLASS	0.7	0.2	0.8	0.0	0.7	0.8
..ORDER	0.7	0.5	0.8	0.0	0.7	0.8
...FAMILY	0.9	1.9	1.0	1.4	2.6	0.8
....GENUS	1.6	1.9	1.0	1.4	0.0	0.8

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)												
.CHLOROPHYCEAE												
..CHLOROCOCCALES												
...HYDRODICTYACEAE												
....PEDIASTRUM	--	-	--	-	--	-	--	-	--	-	--	-
...MICRACTINIACEAE												
....GOLENKINIA	--	-	--	-	--	-	--	-	--	-	--	-
...OOCYSTACEAE												
....ANKISTRODESMUS	--	-	--	-	--	-	--	-	5	2	13#	25
....DICTYOSPHAERIUM	--	-	--	-	--	-	--	-	--	-	--	-
....KIRCHNERIELLA	--	-	--	-	--	-	--	-	--	-	--	-
....OOCYSTIS	--	-	--	-	--	-	--	-	--	-	--	-
....TREUBARIA	--	-	--	-	--	-	--	-	--	-	--	-
....TROCHISCIA	14	1	--	-	--	-	--	-	--	-	--	-
....WESTELLA	--	-	--	-	--	-	--	-	--	-	--	-
...SCENEDESMACEAE												
....CRUCIGENIA	--	-	--	-	--	-	--	-	--	-	--	-
....SCENEDESMUS	--	-	--	-	100	8	--	-	--	-	--	-
....TETRASTRUM	--	-	--	-	--	-	--	-	--	-	--	-
..VOLVOCALES												
...CHLAMYDOMONADACEAE												
....CHLAMYDOMONAS	14	1	13	2	--	-	--	-	--	-	--	-
...PHACOTACEAE												
....PTEROMONAS	14	1	--	-	--	-	--	-	--	-	--	-
CHRYSOPHYTA												
.BACILLARIOPHYCEAE												
..CENTRALES												
...COSCINODISCACEAE												
....CYCLOTELLA	14	1	26	5	--	-	--	-	--	-	--	-
....MELOSIRA	--	-	--	-	--	-	--	-	--	-	--	-
..PENNALES												
...ACHNANTHACEAE												
....ACHNANTHES	--	-	--	-	--	-	--	-	--	-	--	-
....COCCONEIS	--	-	--	-	--	-	--	-	25	9	--	-
....RHOICOSPHENIA	--	-	--	-	--	-	--	-	5	2	--	-
...CYMBELLACEAE												
....CYMBELLA	--	-	--	-	--	-	--	-	--	-	--	-
....EPITHEMIA	--	-	--	-	--	-	39#	60	71#	24	--	-
...FRAGILARIACEAE												
....FRAGILARIA	70	3	77	15	--	-	--	-	--	-	--	-
....SYNEDRA	28	1	--	-	13	1	13#	20	--	-	--	-
...GOMPHONEMATACEAE												
....GOMPHONEMA	70	3	52	10	13	1	--	-	45#	16	--	-
...MERIDIONACEAE												
....MERIDION	14	1	--	-	--	-	--	-	--	-	--	-
...NAVICULACEAE	--	-	--	-	--	-	--	-	10	3	--	-
....GYROSIGMA	14	1	--	-	--	-	--	-	--	-	--	-
....NAVICULA	42	2	26	5	13	1	--	-	66#	22	--	-
...NITZSCHIACEAE												
....NITZSCHIA	14	1	310#	60	78	6	13#	20	30	10	39#	75
...SURIRELLACEAE												
....CYMATOPLEURA	--	-	13	2	--	-	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)												
.CRYPTOPHYCEAE												
..CRYPTOMONADALES												
...CRYPTOCHRYSIDACEAE												
....CHROOMONAS	--	-	--	-	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)												
.CYANOPHYCEAE												
..CHROOCOCCALES												
...CHROOCOCCACEAE												
....AGMENELLUM	--	-	--	-	--	-	--	-	--	-	--	-
....ANACYSTIS	--	-	--	-	--	-	--	-	--	-	--	-
..HORMOGONALES												
...OSCILLATORIACEAE												
....LYNGBYA	430#	16	--	-	--	-	--	-	--	-	--	-
....OSCILLATORIA	2000#	72	--	-	1000#	82	--	-	--	-	--	-
....SCHIZOTHRIX	--	-	--	-	--	-	--	-	35	12	--	-

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2%

06698500 TARRYALL CREEK NEAR JEFFERSON, CO--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1978 TO SEPTEMBER 1979

DATE	APR 27,79		MAY 26,79		JUN 25,79		JUL 23,79		AUG 23,79		SEP 25,79	
TIME	1040		1355		1030		1015		0900		1130	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
EUGLENOPHYTA (EUGLENOIDS)												
.EUGLENOPHYCEAE												
..EUGLENALES												
...EUGLENACEAE												
....EUGLENA	42	2	--	-	--	-	--	-	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)												
.DINOPHYCEAE												
..GYMNODINIALES												
...GYMNODINIACEAE												
....GYMNODINIUM	--	-	--	-	--	-	--	-	--	-	--	-
..PERIDINIALES												
...GLENODINIACEAE												
....GLENODINIUM	--	-	--	-	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2%

06700500 GOOSE CREEK ABOVE CHEESMAN LAKE, CO
(Known also as Lost Park Creek)

LOCATION.--Lat 39°12'32", long 105°18'11", in sec.2, T.10 S., R.71 W., Jefferson County, Hydrologic Unit 10190002, on right bank 1.0 mi (1.6 km) upstream from water line of Cheesman Lake at elevation 6,842 ft (2,085.4 m) and 1.7 mi (2.7 km) west of Cheesman Dam.

DRAINAGE AREA.--86.6 mi² (224 km²).

PERIOD OF RECORD.--August to December 1899 (published as "at Lake Cheesman"), October 1924 to current year (no winter records in some years). Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1730: Drainage area. WSP 1918: 1953.

GAGE.--Water-stage recorder and compound rectangular weir. Altitude of gage is 6,910 ft (2,106 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Small diversions above station for irrigation of about 100 acres (404,700 m²). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--42 years (water years 1925-30, 1936, 1940-41, 1944-47, 1951-79), 28.1 ft³/s (0.796 m³/s), 20,360 acre-ft/yr (25.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 487 ft³/s (13.8 m³/s) June 9, 1957, gage height, 4.11 ft (1.253 m), from rating curve extended above 170 ft³/s (4.8 m³/s); maximum gage height, 4.57 ft (1.393 m), May 30, 1942; minimum discharge not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 290 ft³/s (8.21 m³/s) at 2000 June 11, gage height, 3.02 ft (0.920 m), only peak above base of 110 ft³/s (3.1 m³/s); minimum daily, 1.5 ft³/s (0.042 m³/s) Dec. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.8	6.2	3.5	2.5	3.0	3.5	8.0	37	145	69	20	18
2	4.2	6.2	3.0	2.0	3.0	3.5	7.0	45	149	69	19	17
3	3.8	6.0	2.0	2.5	3.0	3.0	7.0	40	156	61	18	16
4	3.8	6.2	2.5	3.0	3.0	3.0	10	43	137	64	17	16
5	3.8	6.0	3.0	3.0	2.5	3.0	14	57	127	62	16	15
6	3.8	7.0	2.5	2.5	2.5	3.5	14	75	126	57	16	14
7	3.8	5.8	2.0	2.5	3.0	4.0	17	88	135	62	15	14
8	3.7	5.8	1.5	2.5	3.5	5.0	17	74	204	48	17	13
9	3.7	6.0	2.0	3.0	3.5	4.5	19	65	231	43	18	13
10	3.6	6.2	2.5	3.0	3.5	4.0	18	54	239	38	18	12
11	3.7	5.0	2.5	3.0	4.0	4.5	18	45	272	36	19	14
12	3.7	5.0	3.5	3.5	4.0	5.0	18	47	272	36	17	20
13	3.4	5.0	4.0	2.5	4.0	5.0	17	45	245	35	15	19
14	3.6	4.5	3.5	2.5	4.5	6.0	18	62	225	33	25	18
15	3.6	4.0	4.0	3.0	4.0	7.0	20	76	213	32	72	17
16	3.7	4.0	3.5	3.5	3.5	8.0	23	87	204	34	36	17
17	4.3	4.0	4.0	3.5	3.5	8.0	27	92	188	41	28	16
18	4.6	4.5	4.0	3.5	3.5	8.0	32	92	172	56	34	15
19	4.0	4.5	4.5	3.0	4.0	7.0	51	106	161	45	47	13
20	4.2	4.5	3.5	3.0	4.0	7.0	43	101	154	36	32	15
21	4.2	5.0	3.0	3.0	4.0	8.0	49	89	133	32	30	18
22	6.0	4.5	3.5	3.0	3.5	8.0	52	107	118	32	27	18
23	7.5	4.5	3.5	2.0	3.0	7.0	53	103	112	28	24	16
24	6.0	4.5	3.0	2.0	3.0	7.0	58	110	114	24	22	14
25	7.5	4.5	3.5	2.5	3.0	8.0	61	120	101	23	22	13
26	8.2	4.5	2.5	2.5	3.5	8.0	53	119	89	22	24	13
27	6.2	3.0	2.5	2.0	3.5	8.0	50	120	82	20	22	13
28	6.8	3.0	3.5	2.5	3.0	9.0	51	122	77	21	20	13
29	6.5	3.5	3.5	2.5	---	10	42	122	73	21	20	12
30	5.8	3.5	3.0	2.5	---	9.0	36	123	69	22	19	12
31	6.4	---	2.5	2.5	---	8.0	---	128	---	21	18	---
TOTAL	147.9	146.9	95.5	84.5	96.0	192.5	903.0	2594	4723	1223	747	454
MEAN	4.77	4.90	3.08	2.73	3.43	6.21	30.1	83.7	157	39.5	24.1	15.1
MAX	8.2	7.0	4.5	3.5	4.5	10	61	128	272	69	72	20
MIN	3.4	3.0	1.5	2.0	2.5	3.0	7.0	37	69	20	15	12
AC-FT	293	291	189	168	190	382	1790	5150	9370	2430	1480	901

CAL YR 1978 TOTAL 3000.1 MEAN 8.22 MAX 58 MIN 1.5 AC-FT 5950
WTR YR 1979 TOTAL 11407.3 MEAN 31.3 MAX 272 MIN 1.5 AC-FT 22630

06701500 SOUTH PLATTE RIVER BELOW CHEESMAN LAKE, CO

LOCATION.--Lat 39°12'33", long 105°16'02", in SE¼NW¼ sec.6, T.10 S., R.70 W., Jefferson County, Hydrologic Unit 10190002, on left bank 1,400 ft (430 m) downstream from toe of Cheesman Dam and 3.8 mi (6.1 km) southwest of Deckers.

DRAINAGE AREA.--1,752 mi² (4,538 km²).

PERIOD OF RECORD.--October 1924 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1310: 1949. WSP 1730: Drainage area.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 6,609.29 ft (2,014.512 m), National Geodetic Vertical Datum of 1929. Prior to May 14, 1956, at site 370 ft (110 m) upstream at datum 0.50 ft (0.152 m) higher.

REMARKS.--Records excellent. Natural flow of stream affected by minor transmountain diversion from Colorado River basin through Boreas Pass ditch (see elsewhere in this report), Elevenmile Canyon Reservoir and Cheesman Lake (see elsewhere in this report), diversions for irrigation of about 40,000 acres (160 km²), and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--55 years, 156 ft³/s (4.418 m³/s), 113,000 acre-ft/yr (139 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,640 ft³/s (131 m³/s) Apr. 29, 1970, gage height, 13.4 ft (4.08 m), from floodmarks, by computation of outflow from Cheesman Lake; minimum daily determined, 1.6 ft³/s (0.045 m³/s) Apr. 8-14, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 855 ft³/s (24.2 m³/s) July 6, gage height, 3.51 ft (1.070 m); minimum daily, 8.4 ft³/s (0.24 m³/s) Nov. 21, 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	14	16	69	74	26	63	39	26	598	138	136
2	25	14	16	69	65	26	65	36	25	618	156	136
3	25	14	16	71	52	26	93	27	25	639	207	136
4	25	14	15	73	52	26	164	26	25	735	226	119
5	25	14	14	73	52	25	176	26	24	805	226	106
6	26	14	14	73	52	25	149	26	24	798	226	99
7	27	55	14	73	52	25	130	26	25	775	205	92
8	27	142	21	73	50	24	132	26	25	798	158	94
9	27	158	26	73	45	20	84	26	25	787	130	94
10	27	78	26	73	44	18	62	27	25	720	121	69
11	27	15	26	73	44	17	67	28	25	677	121	54
12	27	15	26	73	38	17	35	28	25	639	136	54
13	27	15	26	73	28	17	101	30	25	584	185	56
14	27	15	26	73	22	17	122	30	60	541	185	57
15	27	15	29	73	19	17	122	27	459	512	408	62
16	28	15	35	73	15	18	84	26	611	515	558	62
17	28	15	35	73	10	25	24	25	646	426	503	62
18	28	15	35	73	11	39	15	24	660	394	411	62
19	28	15	40	73	11	39	15	24	663	435	453	62
20	28	10	45	73	11	50	15	25	670	487	453	63
21	30	8.4	52	73	27	58	16	26	649	548	441	74
22	30	8.4	63	73	39	51	16	21	615	506	408	87
23	30	9.0	69	73	39	47	17	24	588	475	346	86
24	30	9.0	69	73	41	47	17	25	591	423	292	82
25	21	9.0	69	73	41	47	18	22	611	332	245	82
26	14	9.0	69	73	41	45	18	21	615	290	231	82
27	14	12	69	73	38	51	19	19	615	216	214	79
28	14	16	69	74	26	66	19	19	611	168	176	76
29	14	16	69	74	---	66	19	24	598	147	160	62
30	14	16	69	74	---	65	19	26	591	136	147	56
31	14	---	69	74	---	63	---	26	---	136	136	---
TOTAL	759	774.8	1237	2257	1039	1103	1896	805	10177	15860	8002	2441
MEAN	24.5	25.8	39.9	72.8	37.1	35.6	63.2	26.0	339	512	258	81.4
MAX	30	158	69	74	74	66	176	39	670	805	558	136
MIN	14	8.4	14	69	10	17	15	19	24	136	121	54
AC-FT	1510	1540	2450	4480	2060	2190	3760	1600	20190	31460	15870	4840

CAL YR 1978 TOTAL 20607.8 MEAN 56.5 MAX 528 MIN 8.4 AC-FT 40880
WTR YR 1979 TOTAL 46350.8 MEAN 127 MAX 805 MIN 8.4 AC-FT 91940

06706000 NORTH FORK SOUTH PLATTE RIVER BELOW GENEVA CREEK, AT GRANT, CO

LOCATION.--Lat 39°27'26", long 105°39'29", in NW¼ sec.10, T.7 S., R.74 W., Park County, Hydrologic Unit 10190002, on left bank at Grant, 1,550 ft (470 m) downstream from Geneva Creek, and 1.3 mi (2.1 km) downstream from east portal of Harold D. Roberts tunnel.

DRAINAGE AREA.--127 mi² (329 km²).

PERIOD OF RECORD.--July 1908 to November 1913 (published as "at Cassells"), June 1942 to current year. Monthly discharge only for some periods, published in WSP 1310. December 1913 to March 1918, equivalent records may be obtained by summation of flow of North Fork South Platte River at Grant (above Geneva Creek) and Geneva Creek at Grant.

REVISED RECORDS.--WSP 956: Drainage area at site at Cassells. WSP 1116: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 8,560.81 ft (2,609.335 m) National Geodetic Vertical Datum of 1929, adjustment of 1960. See WSP 1710 or 1730 for history of changes prior to July 23, 1948. July 23, 1948, to Nov. 15, 1968, water-stage recorder at site 50 ft (15 m) downstream at datum 3.49 ft (1.064 m) lower.

REMARKS.--Records excellent. Small diversions above station for irrigation of about 200 acres (809,400 m²). Transmountain diversions from Colorado River basin to North Fork South Platte River above station through Harold D. Roberts tunnel (see elsewhere in this report). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--42 years (water years 1909-13, 1943-79), 69.8 ft³/s (1.977 m³/s), 50,570 acre-ft/yr (62.4 hm³/yr), adjusted for inflow from Harold D. Roberts tunnel since 1964.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 990 ft³/s (28.0 m³/s) June 7, 8, 1912, gage height, 3.30 ft (1.006 m), site and datum then in use, from rating curve extended above 530 ft³/s (15 m³/s); maximum gage height, 4.72 ft (1.439 m), site and datum then in use, Feb. 11, 1952 (backwater from ice); minimum daily discharge, 6.5 ft³/s (0.18 m³/s) Nov. 27, 1958.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 546 ft³/s (15.5 m³/s) at 2300 June 14, gage height, 1.83 ft (0.558 m); minimum daily, 16 ft³/s (0.45 m³/s) Apr. 3, 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	427	346	100	112	112	109	18	36	188	333	420	44
2	399	340	100	112	112	103	17	39	179	326	406	45
3	392	326	109	112	112	100	16	34	184	298	378	44
4	378	314	115	109	112	100	16	37	206	287	366	42
5	372	320	115	109	112	100	17	47	230	276	359	52
6	372	240	115	109	112	100	18	47	276	255	346	85
7	378	19	115	109	112	100	18	49	320	240	320	162
8	378	22	115	109	112	100	19	45	282	220	320	166
9	392	22	112	109	112	100	21	41	250	206	320	166
10	413	131	112	109	112	100	19	37	255	206	309	166
11	378	245	112	109	112	100	17	37	304	255	265	174
12	359	245	112	109	112	100	18	41	320	270	260	174
13	366	235	115	109	112	100	18	42	385	282	260	174
14	359	161	115	109	112	100	19	52	485	309	292	174
15	359	46	115	112	112	100	24	52	470	314	162	174
16	372	270	115	112	112	100	30	58	434	292	100	174
17	385	276	115	112	112	100	34	70	420	270	88	170
18	392	276	115	112	112	100	39	82	392	250	97	197
19	399	276	115	112	112	100	41	100	366	240	91	245
20	399	230	115	112	112	100	37	115	314	230	85	265
21	352	170	115	112	112	100	34	109	292	220	73	298
22	287	150	115	112	112	100	34	130	326	197	65	298
23	245	146	115	112	112	100	34	154	326	174	63	292
24	235	150	115	112	112	100	39	174	346	170	63	292
25	142	150	115	112	115	100	37	184	346	166	61	292
26	49	150	115	112	115	100	33	192	326	215	108	265
27	184	115	115	112	118	91	34	230	340	270	138	206
28	352	97	115	112	115	59	39	265	340	282	87	188
29	359	97	112	112	---	27	33	282	340	366	52	188
30	340	97	112	112	---	18	33	255	333	441	52	188
31	326	---	112	112	---	18	---	215	---	427	49	---
TOTAL	10540	5662	3508	3439	3151	2825	806	3251	9575	8287	6055	5400
MEAN	340	189	113	111	113	91.1	26.9	105	319	267	195	180
MAX	427	346	115	112	118	109	41	282	485	441	420	298
MIN	49	19	100	109	112	18	16	34	179	166	49	42
AC-FT	20910	11230	6960	6820	6250	5600	1600	6450	18990	16440	12010	10710

CAL YR 1978 TOTAL 91049 MEAN 249 MAX 766 MIN 19 AC-FT 180600
WTR YR 1979 TOTAL 62499 MEAN 171 MAX 485 MIN 16 AC-FT 124000

06707000 NORTH FORK SOUTH PLATTE RIVER AT SOUTH PLATTE, CO

LOCATION.--Lat 39°24'32", long 105°10'31", in SW¼ sec.25, T.7 S., R.70 W., Jefferson County, Hydrologic Unit 10190002, on left bank 0.2 mi (0.3 km) west of South Platte and 0.3 mi (0.5 km) upstream from mouth.

DRAINAGE AREA.--479 mi² (1,241 km²).

PERIOD OF RECORD.--June 1909 to September 1910, April 1913 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1310: 1930(M), 1933(M), 1942(M). WSP 1730: 1956(M), drainage area.

GAGE.--Water-stage recorder. Datum of gage is 6,090.55 ft (1,856.400 m) National Geodetic Vertical Datum, adjustment of 1912. Prior to May 13, 1925, nonrecording gage at present site and datum.

REMARKS.--Records good except those for winter period, which are poor. Small diversions above station for irrigation of about 2,000 acres (8.09 km²). Transmountain diversions from Colorado River basin to North Fork South Platte River above station through Harold D. Roberts tunnel (see elsewhere in this report). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--67 years (water years 1910, 1914-79), 152 ft³/s (4.305 m³/s), 110,100 acre-ft/yr (136 hm³/yr), adjusted for inflow from Harold D. Roberts tunnel since 1964.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,050 ft³/s (58.1 m³/s) June 13, 1949, gage height, 6.30 ft (1.920 m); minimum observed, 4.0 ft³/s (0.11 m³/s) Dec. 8, 1932 (discharge measurement).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,360 ft³/s (38.5 m³/s) at 0900 June 14, gage height, 4.45 ft (1.356 m); minimum daily, 40 ft³/s (1.13 m³/s) Apr. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	438	334	120	105	115	135	58	139	430	640	535	100
2	422	340	115	105	120	125	45	188	400	595	512	90
3	408	340	110	115	120	120	40	168	408	565	482	82
4	408	328	120	120	120	115	45	164	422	558	445	78
5	392	328	125	125	120	120	50	202	438	542	438	78
6	392	321	120	120	125	125	60	224	505	510	430	102
7	392	133	115	110	125	130	65	246	625	480	410	164
8	392	68	110	110	130	135	80	256	814	440	400	210
9	392	66	115	115	130	130	100	251	798	410	410	206
10	415	63	120	115	130	125	85	229	830	390	430	206
11	408	142	125	120	135	130	105	215	990	410	390	210
12	385	246	125	125	135	130	70	220	1160	430	360	229
13	385	235	125	120	135	125	65	215	1210	440	350	215
14	385	240	125	115	135	125	78	220	1240	470	460	215
15	385	114	130	120	135	112	102	229	1210	490	410	215
16	385	168	125	125	130	110	124	240	1120	480	250	210
17	392	262	125	130	125	112	146	256	1050	460	215	206
18	400	267	130	130	125	118	168	273	950	440	240	210
19	408	267	130	130	125	110	184	303	870	430	235	256
20	408	262	125	130	125	112	172	328	760	408	192	290
21	392	202	125	130	125	112	168	303	715	385	175	321
22	370	175	125	130	125	115	164	315	715	370	146	328
23	284	175	130	125	125	112	164	360	715	321	133	321
24	267	172	130	125	125	115	168	400	722	315	127	321
25	262	179	135	130	125	118	188	430	708	303	124	321
26	112	175	130	125	130	118	175	430	678	303	124	315
27	100	160	130	120	135	121	160	468	648	385	202	256
28	327	120	130	120	135	115	157	505	640	422	188	224
29	355	120	130	120	---	93	153	528	618	408	112	215
30	355	120	120	115	---	69	139	542	610	550	105	210
31	321	---	115	110	---	61	---	468	---	550	107	---
TOTAL	11137	6122	3835	3735	3565	3593	3478	9315	22999	13900	9137	6404
MEAN	359	204	124	120	127	116	116	300	767	448	295	213
MAX	438	340	135	130	135	135	188	542	1240	640	535	328
MIN	100	63	110	105	115	61	40	139	400	303	105	78
AC-FT	22090	12140	7610	7410	7070	7130	6900	18480	45620	27570	18120	12700

CAL YR 1978 TOTAL 99657 MEAN 273 MAX 768 MIN 63 AC-FT 197700
WTR YR 1979 TOTAL 97220 MEAN 266 MAX 1240 MIN 40 AC-FT 192800

06707500 SOUTH PLATTE RIVER AT SOUTH PLATTE, CO

LOCATION.--Lat 39°24'33", long 105°10'10", in SE¼ sec.25, T.7 S., R.70 W., Jefferson County, Hydrologic Unit 10190002, on left bank at South Platte, 200 ft (61 m) downstream from bridge on State Highway 75, and 400 ft (120 m) downstream from North Fork.

DRAINAGE AREA.--2,579 mi² (6,680 km²).

PERIOD OF RECORD.--July 1887 to September 1891, May to October 1892, October 1895 to September 1897, October 1898 to June 1900, October 1900 to current year. Monthly discharge only for some periods, published in WSP 1310. Published as "at" or "near Deansbury," "at Deansbury and Platte Canyon," "at" or "near Platte Canyon," prior to 1931, and "below North Fork, at South Platte" 1914.

REVISED RECORDS.--WSP 306: 1910. WSP 1310: 1887-91, 1893, 1896, 1900, 1904, 1915(M), 1922(M), 1936(M). WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 6,078.43 ft (1,852.705 m), National Geodetic Vertical Datum adjustment of 1912. See WSP 1710 or 1730 for history of changes prior to Mar. 14, 1910.

REMARKS.--Records good except those for winter period, which are poor. Natural flow of stream affected by transmountain diversions through Boreas Pass ditch and Harold D. Roberts tunnel (see elsewhere in this report), Elevenmile Canyon Reservoir and Cheesman Lake (see elsewhere in this report), diversions above station for irrigation of about 45,000 acres (182 km²), and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,320 ft³/s (179 m³/s) June 8, 1921, gage height, 8.95 ft (2.728 m), from rating curve extended above 3,500 ft³/s (99 m³/s); minimum daily determined, 10 ft³/s (0.28 m³/s) Dec. 5, 1899.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,830 ft³/s (51.8 m³/s) at 1300 June 17, gage height, 4.97 ft (1.515 m); minimum daily, 100 ft³/s (2.83 m³/s) Oct. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	470	368	152	170	190	180	150	245	552	1210	686	253
2	456	375	144	170	190	180	132	347	536	1190	672	245
3	438	372	135	190	180	175	142	316	528	1180	690	238
4	434	354	140	200	180	165	208	304	536	1230	694	230
5	424	358	145	210	180	170	253	344	536	1320	681	200
6	424	350	140	205	185	175	262	382	588	1280	672	222
7	424	144	130	185	185	185	248	400	699	1270	640	268
8	428	143	125	185	195	190	277	403	870	1220	596	313
9	428	210	140	190	190	180	286	396	875	1190	580	310
10	448	202	150	195	190	175	212	364	920	1100	588	310
11	438	269	160	205	200	180	253	344	1090	1070	532	295
12	417	304	160	215	195	180	164	347	1190	1050	512	313
13	417	289	160	205	185	180	173	322	1230	1010	536	304
14	417	292	160	195	180	175	245	322	1280	990	694	307
15	417	135	170	200	175	165	292	344	1540	974	790	304
16	420	192	165	210	165	168	334	358	1750	958	785	298
17	431	319	165	215	155	168	322	368	1750	936	790	295
18	438	325	175	215	150	190	328	386	1680	865	676	298
19	445	328	180	215	150	182	350	414	1590	860	704	334
20	445	322	175	215	150	188	337	445	1500	870	672	364
21	434	245	180	215	160	208	319	420	1420	880	636	396
22	420	202	190	215	170	222	310	434	1380	880	588	414
23	340	198	210	210	175	195	310	476	1350	805	528	417
24	319	200	210	210	175	198	316	512	1350	766	473	410
25	319	212	220	220	175	208	328	524	1340	704	420	410
26	133	210	210	210	185	212	310	520	1300	632	403	410
27	100	195	210	200	190	215	289	548	1260	668	456	354
28	352	142	210	200	180	232	280	588	1240	618	414	325
29	386	194	210	200	---	210	265	609	1210	614	307	316
30	389	152	195	190	---	175	248	632	1190	699	289	298
31	350	---	185	180	---	154	---	576	---	694	265	---
TOTAL	12201	7561	5301	6240	4980	5780	7943	12990	34280	29733	17969	9451
MEAN	394	252	171	201	178	186	265	419	1143	959	580	315
MAX	470	375	220	220	200	232	350	632	1750	1320	790	417
MIN	100	135	125	170	150	154	132	245	528	614	265	200
AC-FT	24200	15000	10510	12380	9880	11460	15750	25770	67990	58980	35640	18750

CAL YR 1978 TOTAL 127457 MEAN 349 MAX 1120 MIN 100 AC-FT 252800
WTR YR 1979 TOTAL 154429 MEAN 423 MAX 1750 MIN 100 AC-FT 306300

06708000 SOUTH PLATTE RIVER AT WATERTON, CO

LOCATION.--Lat 39°29'18", long 105°05'32", in NE¼ sec.34, T.6 S., R.69 W., Jefferson County, Hydrologic Unit 10190002, on left bank 168 ft (51 m) downstream from bridge on State Highway 221, 0.4 mi (0.6 km) south of Waterton, 4.7 mi (7.6 km) west of Louviers, and 6 mi (10 km) upstream from Plum Creek.

DRAINAGE AREA.--2,621 mi² (6,788 km²).

PERIOD OF RECORD.--May 1926 to current year. Monthly discharge only prior to 1934, published in WSP 1310.

GAGE.--Water-stage recorder. Datum of gage is 5,484.43 ft (1,671.654 m) National Geodetic Vertical Datum, adjustment of 1912.

REMARKS.--Records good except those for winter period, which are fair. Natural flow of stream affected by transmountain diversions (see elsewhere in this report), Elevenmile Canyon Reservoir and Cheesman Lake (see elsewhere in this report), diversions for irrigation of about 55,000 acres (223 km²) and municipal use, and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--53 years, 172 ft³/s (4.871 m³/s), 124,600 acre-ft/yr (154 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,700 ft³/s (161 m³/s) Apr. 23, 1942, gage height, 5.68 ft (1.731 m); minimum daily, 0.1 ft³/s (0.003 m³/s) Mar. 6, 7, 1933, Feb. 28 to Mar. 2, Mar. 20, 1938.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,450 ft³/s (41.1 m³/s) at 1130 June 16, gage height, 2.65 ft (0.808 m); minimum daily, 5.7 ft³/s (0.16 m³/s) Feb. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	76	40	12	30	12	14	17	13	275	744	299	42
2	62	48	10	35	15	14	15	86	312	700	284	70
3	51	53	12	40	12	14	28	29	282	677	300	66
4	39	42	16	25	12	14	25	332	250	747	306	53
5	22	45	15	10	10	14	44	401	265	828	294	30
6	22	40	11	10	7.5	16	44	437	264	838	283	37
7	21	89	9.0	10	7.5	17	56	231	425	834	250	81
8	22	100	10	10	6.6	14	69	37	804	792	198	80
9	18	51	10	10	5.7	12	129	32	882	763	179	64
10	42	24	15	12	6.6	12	63	32	888	685	182	66
11	41	31	15	12	7.5	14	180	25	876	608	226	63
12	13	22	20	12	7.5	54	86	13	780	574	170	65
13	23	17	26	12	8.4	154	21	25	761	537	152	61
14	35	16	25	15	12	27	26	16	921	479	302	62
15	36	64	27	15	12	23	26	12	1200	441	425	59
16	37	74	25	17	12	24	63	33	1330	426	412	56
17	34	12	26	17	12	22	46	72	1250	428	478	57
18	36	13	23	14	14	63	33	47	1180	349	356	63
19	48	10	22	10	14	25	50	61	1180	396	393	65
20	47	13	20	10	14	22	28	152	1140	374	359	64
21	49	11	17	9.3	14	22	14	114	1050	385	330	64
22	91	11	15	8.4	14	83	17	67	974	377	293	66
23	55	11	19	8.4	14	19	24	185	983	343	241	66
24	71	12	26	10	14	16	26	166	1010	326	121	63
25	86	11	24	7.5	14	16	20	141	930	264	88	63
26	61	12	26	6.6	15	16	14	136	861	184	92	66
27	23	12	25	10	14	19	17	167	807	205	91	66
28	69	13	22	15	14	23	18	229	763	168	92	57
29	36	13	20	10	---	20	13	332	728	304	79	59
30	25	13	20	8.4	---	17	13	461	701	307	73	62
31	21	---	30	10	---	15	---	289	---	307	47	---
TOTAL	1312	923	593.0	429.6	321.3	835	1225	4373	24072	15350	7395	1836
MEAN	42.3	30.8	19.1	13.9	11.5	26.9	40.8	141	802	495	239	61.2
MAX	91	100	30	40	15	154	180	461	1330	838	478	81
MIN	13	10	9.0	6.6	5.7	12	13	12	250	168	47	30
AC-FT	2600	1830	1180	852	637	1660	2430	8670	47750	30450	14670	3640

CAL YR 1978 TOTAL 25760.2 MEAN 70.6 MAX 582 MIN 4.8 AC-FT 51100
WTR YR 1979 TOTAL 58864.9 MEAN 161 MAX 1330 MIN 5.7 AC-FT 116400

06709500 PLUM CREEK NEAR LOUVIERS, CO

LOCATION.--Lat 39°29'04", long 105°00'07", in SE¼ sec.33, T.6 S., R.68 W., Douglas County, Hydrologic Unit 10190002, on downstream side of bridge on county road from U.S. Highway 85 to Louviers, 0.8 mi (1.3 km) northeast of Louviers, 1.2 mi (1.9 km) downstream from Indian Creek, and 7.5 mi (12.1 km) upstream from mouth.

DRAINAGE AREA.--302 mi² (782 km²).

PERIOD OF RECORD.--October 1947 to current year.

REVISED RECORDS.--WSP 1730: 1958, drainage area at site 2.5 mi (4.0 km) downstream. WSP 1918: 1957(M).

GAGE.--Water-stage recorder. Altitude of gage is 5,585 ft (1,702 m), from topographic map. Prior to Feb. 12, 1957, at site 2.5 mi (4.0 km) downstream and Nov. 7, 1965, to Aug. 6, 1966, at site 2.2 mi (3.5 km) downstream at different datums. Feb. 12, 1957, to Nov. 6, 1965, at present site at about present datum.

REMARKS.--Records poor. Diversions above station for irrigation. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--32 years, 27.5 ft³/s (0.779 m³/s), 19,920 acre-ft/yr (24.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 154,000 ft³/s (4,360 m³/s) June 16, 1965, gage height, 22.4 ft (6.83 m), from floodmarks, by slope-area measurement of peak flow; no flow at times in 1951-52, 1956-60, 1963-64.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 401 ft³/s (11.4 m³/s) at 0815 Apr. 25, gage height, 2.37 ft (0.722 m), only peak above base of 220 ft³/s (6.2 m³/s); minimum daily, 0.10 ft³/s (0.003 m³/s) Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.30	.39	.70	2.0	4.0	9.2	88	204	45	42	.61	.79
2	.30	.39	.67	2.0	3.8	9.2	42	247	43	21	.61	.70
3	.38	.39	.67	2.0	3.7	5.2	62	247	40	16	.61	.66
4	.43	.39	.70	2.0	3.6	3.6	42	228	37	21	.56	.56
5	.43	.39	.84	1.5	3.6	3.2	73	232	30	8.0	.56	.56
6	.48	.39	.78	1.3	3.6	12	93	232	25	9.2	.61	.56
7	.48	.39	.98	1.2	3.6	15	78	247	24	10	.61	.48
8	.43	.39	.98	.97	4.4	15	67	252	83	5.6	.66	.43
9	.43	.38	.80	.97	4.8	13	108	273	104	4.4	.79	.38
10	.43	.38	.79	.97	5.6	16	104	262	124	2.4	1.2	.34
11	.43	.43	.95	1.1	14	18	93	262	120	2.8	2.4	.30
12	.38	.48	1.5	1.5	27	16	98	257	117	2.8	1.2	.25
13	.43	.48	1.8	1.8	48	16	124	257	117	1.6	1.1	.34
14	.48	.48	2.2	2.5	42	15	183	252	104	1.2	4.0	.34
15	.48	.34	2.8	2.8	4.0	16	237	204	98	1.1	4.0	.22
16	.38	.34	3.0	3.6	3.2	12	223	200	67	1.2	1.6	.20
17	.38	.34	3.1	4.0	3.2	13	268	179	67	1.4	2.4	.20
18	.38	.52	3.2	4.4	1.6	27	332	174	67	2.8	3.2	.18
19	.38	.52	5.2	4.0	4.8	21	321	152	88	2.0	4.0	.12
20	.38	.48	3.5	4.0	5.2	24	332	180	73	2.4	1.2	.12
21	.40	.52	2.7	4.0	2.4	30	321	240	67	1.6	2.4	.15
22	1.0	.52	2.1	4.0	2.4	12	316	230	62	1.3	1.5	.15
23	.90	.48	2.1	4.0	5.2	30	321	250	78	1.5	1.3	.12
24	.76	.48	2.0	4.0	2.8	42	332	230	120	1.2	1.2	.12
25	.80	.48	1.7	4.0	2.4	67	360	200	101	.88	1.4	.15
26	.60	.48	1.6	4.0	6.8	78	365	120	57	.70	2.0	.15
27	.45	.52	1.6	4.0	3.6	57	326	94	45	.66	4.0	.12
28	.40	.62	1.6	4.0	4.8	83	294	68	48	.61	2.0	.12
29	.40	.70	1.6	4.0	---	88	252	58	42	.61	1.5	.12
30	.40	.70	1.8	4.0	---	57	232	64	45	.61	1.1	.10
31	.40	---	2.0	4.0	---	78	---	64	---	.61	.88	---
TOTAL	14.70	13.79	55.96	88.61	224.1	901.4	6087	6159	2138	169.18	51.20	9.03
MEAN	.47	.46	1.81	2.86	8.00	29.1	203	199	71.3	5.46	1.65	.30
MAX	1.0	.70	5.2	4.4	48	88	365	273	124	42	4.0	.79
MIN	.30	.34	.67	.97	1.6	3.2	42	58	24	.61	.56	.10
AC-FT	29	27	111	176	445	1790	12070	12220	4240	336	102	18

CAL YR 1978 TOTAL 3293.96 MEAN 9.02 MAX 84 MIN .04 AC-FT 6530
WTR YR 1979 TOTAL 15911.97 MEAN 43.6 MAX 365 MIN .10 AC-FT 31560

06710000 SOUTH PLATTE RIVER AT LITTLETON, CO

LOCATION.--Lat 39°37'08", long 105°01'07", in NE¼ sec.17, T.5 S., R.68 W., Arapahoe County, Hydrologic Unit 10190002, on left bank 200 ft (61 m) downstream from Crestline Ave. Bridge at Littleton, 3.1 mi (5.0 km) upstream from Bear Creek, and 6.3 mi (10 km) downstream from Chatfield Dam.

DRAINAGE AREA.--3,069 mi^2 (7,949 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1941 to current year.

REVISED RECORDS.--WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,304.36 ft (1,616.769 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Nov. 23, 1948, nonrecording gage on bridge 200 ft (61 m) upstream at datum 1.00 ft (0.305 m) higher. Nov. 23, 1948, to Sept. 30, 1951, water-stage recorder at present site at datum 1.00 ft (0.305 m) higher.

REMARKS.--Records good. Natural flow of stream affected by transmountain diversions, storage and flood-control reservoirs, power developments, diversions for irrigation and municipal use, and return flow from irrigated areas. Flow regulated by Chatfield Dam since May 29, 1975 (station 06709600).

AVERAGE DISCHARGE.--33 years (water years 1942-74), 234 ft^3/s (6.627 m^3/s), 169,500 acre-ft/yr (209 hm^3/yr), prior to completion of Chatfield Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 110,000 ft^3/s (3,100 m^3/s) June 16, 1965, gage height, 15.45 ft (4.709 m), from floodmarks, estimated from contracted-opening and flow-over-road measurement of peak flow at point 1.6 mi (2.6 km) downstream and slope-area measurement of peak flow on Plum Creek at point 12.7 mi (20.4 km) upstream; minimum daily, 7.2 ft^3/s (0.20 m^3/s) Oct. 2, 1956. Stage and discharge of the flood of June 16, 1965, are the greatest since at least 1894.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,720 ft^3/s (48.7 m^3/s) at 1030 June 16, gage height, 5.57 ft (1.698 m), minimum daily, 12 ft^3/s (0.34 m^3/s) Dec. 17, May 13, 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	79	21	61	37	51	115	436	232	820	306	40
2	44	77	23	61	37	48	105	386	236	680	291	40
3	45	77	24	61	35	44	105	37	236	588	243	40
4	45	77	23	61	34	39	103	18	236	625	208	40
5	45	77	24	39	34	37	103	197	236	689	208	39
6	44	77	23	36	34	37	103	386	239	820	215	29
7	44	77	21	33	35	37	101	215	268	1290	229	27
8	42	138	21	32	35	39	99	45	229	1060	229	24
9	41	166	20	31	39	37	130	24	52	922	212	35
10	41	108	21	25	45	35	192	15	26	850	182	47
11	41	108	20	23	47	34	225	15	21	785	188	54
12	41	110	15	22	47	30	215	15	19	616	182	57
13	39	71	14	22	55	41	201	12	164	540	135	61
14	35	30	14	22	45	41	192	12	1080	536	166	66
15	34	26	14	22	42	48	188	14	1290	492	225	61
16	35	25	14	22	48	57	188	58	1600	424	472	60
17	34	24	12	22	48	58	279	108	1680	397	616	58
18	33	24	13	22	48	68	329	110	1680	329	445	60
19	31	24	13	22	47	68	329	112	1670	264	380	60
20	31	25	13	25	47	66	333	135	1670	287	320	58
21	34	25	25	27	48	65	333	108	1480	325	290	52
22	73	24	61	27	48	69	329	160	1170	344	260	39
23	42	23	61	34	49	88	329	283	1000	366	225	37
24	40	49	61	36	49	112	329	287	1030	382	160	37
25	42	99	61	37	49	108	333	287	1180	321	90	35
26	39	101	61	37	49	103	298	287	948	179	60	36
27	39	75	61	37	57	105	61	287	891	90	60	35
28	35	45	61	37	52	105	424	283	1140	77	80	35
29	35	35	61	37	---	103	428	287	1050	135	120	44
30	40	26	61	37	---	103	432	298	928	225	149	47
31	80	---	61	37	---	105	---	287	---	264	65	---
TOTAL	1286	1922	998	1047	1240	1981	6931	5204	23681	15722	7011	1353
MEAN	41.5	64.1	32.2	33.8	44.3	63.9	231	168	789	507	226	45.1
MAX	80	166	61	61	57	112	432	436	1680	1290	616	66
MIN	31	23	12	22	34	30	61	12	19	77	60	24
AC-FT	2550	3810	1980	2080	2460	3930	13750	10320	46970	31180	13910	2680

CAL YR 1978 TOTAL 32159 MEAN 88.1 MAX 634 MIN 12 AC-FT 63790
WTR YR 1979 TOTAL 68376 MEAN 187 MAX 1680 MIN 12 AC-FT 135600

06710000 SOUTH PLATTE RIVER AT LITTLETON, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: April 1970 to current year.

INSTRUMENTATION.--Temperature recorder since April 1970.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum, 32°C July 12, 1979; minimum, freezing point on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum, 32.0°C June 12; minimum, 0.0°C on many days in December

WATER-QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	NITRO-GEN, DIS-SOLVED (MG/L AS N)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML)
APR										
04...	1530	97	400	8.0	8.0	3.7	13.6	--	K3	--
MAY										
01...	1415	581	280	8.8	14.0	16	8.9	--	K20	K81
JUN										
01...	1200	139	255	8.7	16.5	9.0	9.6	--	28	K21
JUL										
13...	1050	369	300	7.9	21.0	4.7	7.2	--	53	29
AUG										
07...	1230	228	360	8.1	22.0	20	8.1	--	59	79
SEP										
06...	1340	30	510	8.1	22.5	1.6	10.2	.42	50	80

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
APR										
04...	140	51	42	8.9	22	.8	2.9	91	67	24
MAY										
01...	98	38	29	6.3	16	.7	2.6	60	47	13
JUN										
01...	91	33	27	5.7	14	.6	2.4	58	36	13
JUL										
13...	91	24	23	8.1	20	.9	2.1	67	37	21
AUG										
07...	100	29	27	8.6	22	.9	20	74	50	32
SEP										
06...	190	66	53	13	39	1.2	2.5	120	87	38

K BASED ON NON-IDEAL COLONY COUNT.

06710000 SOUTH PLATTE RIVER AT LITTLETON, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN,NH4 + ORG. SUSP. TOTAL (MG/L AS N)
APR 04...	.9	7.4	238	230	2.0	--	.04	.39	.43	.02
MAY 01...	1.1	11	177	162	1.1	--	.06	.45	.51	.20
JUN 01...	.9	7.1	156	141	.71	--	.07	.36	.43	.02
JUL 13...	.9	9.2	173	162	.11	--	.00	.41	.41	.23
AUG 07...	.8	7.8	207	213	.19	--	.01	.43	.44	.04
SEP 06...	1.1	39	318	347	3.6	.37	.06	.08	.14	.09

DATE	NITHOGEN,AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DISSOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	PHYTOPLANKTON, TOTAL (CELLS PER ML)	PERIPHYTON BIOMASS ASH WEIGHT G/SQ M	PERIPHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M
APR 04...	.41	2.4	.020	.000	--	3.2	--	--	--
MAY 01...	.31	1.6	.050	.010	5.3	--	13000	1.74	2.39
JUN 01...	.41	1.1	.020	.020	5.1	--	2400	--	--
JUL 13...	.18	.52	.020	.010	--	5.5	12000	--	--
AUG 07...	.40	.63	.040	.030	4.6	--	8000	--	--
SEP 06...	.05	3.7	.030	.010	3.3	--	7700	--	--

06710000 SOUTH PLATTE RIVER AT LITTLETON, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)
APR 04...	1530	0	0	0	60	3	<1	0	0
JUL 13...	1050	4	1	0	50	1	7	0	0
SEP 06...	1340	--	1	--	80	--	6	--	10

DATE	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)
APR 04...	3	<3	6	1	160	10	27	1	90
JUL 13...	2	<3	6	1	280	60	18	5	100
SEP 06...	--	<3	--	2	--	30	--	0	--

DATE	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
APR 04...	20	.0	.0	1	1	0	0	50	3
JUL 13...	50	--	.2	--	0	0	0	10	<3
SEP 06...	80	--	.1	--	1	--	0	--	470

06710000 SOUTH PLATTE RIVER AT LITTLETON, CO--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	17.0	11.5	10.5	6.5	7.0	1.0	2.5	1.5	2.0	.5	8.0	3.0
2	16.0	12.0	10.5	6.5	1.0	1.0	2.0	1.0	2.0	1.0	5.5	3.0
3	15.5	10.0	10.5	7.0	1.0	1.0	3.5	1.5	3.0	1.0	7.5	2.0
4	14.5	10.0	11.0	6.0	3.0	1.0	2.5	1.0	3.0	1.0	7.5	1.5
5	14.0	9.0	9.0	6.5	2.5	1.0	2.0	1.5	3.0	.5	9.5	2.0
6	14.0	8.5	9.0	5.0	1.0	1.0	1.5	1.0	5.5	1.5	10.5	4.0
7	14.5	9.0	9.0	5.5	2.0	.5	2.0	1.0	6.0	1.5	12.5	5.0
8	15.0	10.0	9.5	6.0	2.0	.5	2.0	1.0	6.0	2.0	7.0	2.5
9	15.5	10.5	9.5	6.5	2.0	.0	1.5	1.0	7.5	1.5	9.0	2.5
10	15.0	10.0	7.0	5.0	.0	.0	1.0	1.0	6.5	2.0	10.0	1.5
11	13.5	10.0	5.0	4.5	1.0	.0	2.5	1.5	5.5	2.5	12.5	3.0
12	14.0	10.0	5.5	4.5	2.5	1.0	3.0	1.0	4.0	3.0	14.5	4.5
13	13.5	9.5	6.5	3.5	4.0	1.5	2.0	1.0	6.5	3.0	8.0	4.5
14	13.5	8.0	4.5	3.5	4.5	1.0	1.5	1.0	7.5	3.0	9.5	3.0
15	14.5	8.0	7.0	2.0	6.0	1.5	1.0	.5	5.0	2.5	10.5	3.5
16	14.0	8.0	7.0	1.5	4.0	1.0	4.0	.5	5.0	2.0	10.0	4.5
17	11.5	9.0	7.5	1.0	2.5	.5	4.0	1.0	6.5	2.0	9.0	4.5
18	12.5	8.5	7.5	1.5	5.0	1.5	5.0	1.5	7.0	1.5	6.5	2.5
19	14.0	7.5	6.5	1.5	7.5	2.5	8.5	1.5	6.5	2.0	8.5	4.5
20	12.0	8.5	3.0	2.0	4.5	1.5	7.0	1.5	7.5	3.5	6.5	4.5
21	12.0	10.0	4.5	2.0	4.0	1.5	7.0	1.0	6.5	2.5	6.0	5.0
22	11.0	6.0	8.0	2.0	4.0	1.5	2.5	1.5	5.5	2.0	5.0	2.5
23	11.0	5.5	7.5	1.5	3.0	2.0	2.0	1.0	6.0	2.5	9.5	3.5
24	12.0	7.0	5.0	2.0	4.0	1.0	1.5	1.0	7.0	2.0	10.5	4.0
25	11.0	7.0	3.5	2.5	3.5	1.5	2.5	1.5	6.5	1.5	11.0	4.0
26	10.0	5.0	3.0	2.5	3.5	1.5	2.0	1.5	7.5	3.5	8.0	4.5
27	11.5	6.5	4.0	1.5	4.5	1.5	2.5	1.0	6.0	3.5	10.5	4.5
28	11.0	7.0	3.0	1.0	4.5	2.0	2.5	1.0	3.0	2.5	11.0	4.5
29	11.5	6.5	3.5	.5	3.0	1.5	2.0	1.5	---	---	9.5	5.5
30	10.0	7.0	7.5	1.5	2.0	1.5	2.5	1.0	---	---	10.0	4.5
31	10.0	6.5	---	---	2.5	1.5	3.0	.5	---	---	7.5	4.5
MONTH	17.0	5.0	11.0	.5	7.5	.0	8.5	.5	7.5	.5	14.5	1.5

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	6.5	3.5	14.5	11.5	17.0	13.0	19.0	17.5	22.5	17.5	---	---
2	9.5	3.5	11.5	8.0	19.0	13.0	20.0	17.0	22.5	17.0	---	---
3	9.5	4.5	10.5	8.0	19.5	13.0	20.0	17.0	23.0	17.0	---	---
4	8.5	3.5	19.0	6.5	19.0	13.0	20.5	17.0	23.5	17.0	---	---
5	12.5	4.5	19.0	12.0	20.0	13.0	20.5	16.0	24.0	17.0	---	---
6	12.5	5.5	15.5	11.0	20.0	13.5	---	---	23.5	17.0	---	---
7	13.0	6.0	---	---	14.5	13.5	20.5	18.5	23.5	17.0	---	---
8	14.0	6.5	---	---	13.5	13.0	20.5	18.5	23.5	17.5	---	---
9	13.0	6.5	---	---	14.0	11.5	21.0	18.5	20.5	17.5	---	---
10	9.5	6.0	---	---	21.5	10.0	21.0	18.5	18.0	17.0	---	---
11	6.5	5.0	---	---	26.5	12.0	21.0	18.5	23.5	16.5	---	---
12	12.0	6.0	---	---	32.0	13.0	21.5	18.5	22.0	17.0	20.5	19.0
13	10.0	6.5	---	---	21.5	13.0	21.5	18.0	18.5	17.0	22.0	17.5
14	13.0	7.0	---	---	16.5	13.5	22.0	18.5	17.5	17.0	22.5	17.0
15	14.5	7.0	---	---	16.0	14.0	21.0	17.5	21.5	16.5	23.0	16.0
16	14.5	8.5	---	---	16.0	14.5	22.0	18.0	21.0	17.5	23.5	16.0
17	13.5	9.5	17.0	11.0	17.0	14.0	21.5	18.0	20.5	18.0	23.0	16.5
18	14.5	10.5	17.0	11.0	17.0	15.0	22.0	18.0	21.0	18.0	23.0	16.5
19	14.5	10.5	18.5	12.0	17.0	15.0	23.0	17.5	21.5	15.5	23.5	16.5
20	15.0	10.0	13.0	11.5	17.0	16.0	22.5	17.5	---	---	21.5	17.5
21	15.0	10.0	18.5	11.0	17.5	15.5	22.0	17.5	---	---	23.0	17.0
22	15.0	10.0	18.5	11.5	18.0	15.5	22.0	18.0	---	---	24.0	16.0
23	15.0	11.5	13.5	13.0	17.5	15.5	21.5	18.0	---	---	25.0	16.5
24	15.5	11.5	17.0	13.0	18.0	16.0	22.0	18.0	---	---	24.0	16.5
25	14.5	11.5	16.5	13.0	18.5	16.0	21.5	17.5	---	---	22.0	16.5
26	15.0	10.5	18.5	13.5	19.0	16.0	23.0	17.0	---	---	23.0	16.5
27	12.5	10.0	19.0	13.5	19.0	16.0	22.0	16.5	---	---	24.0	16.0
28	14.5	11.0	17.0	13.5	19.0	16.5	22.5	16.5	---	---	24.0	15.5
29	---	---	18.0	14.0	19.5	17.0	21.0	16.5	---	---	24.0	15.5
30	---	---	14.0	12.5	19.5	17.5	22.0	17.0	21.0	15.0	22.5	17.0
31	---	---	17.0	12.5	---	---	21.5	17.0	---	---	---	---
MONTH	15.5	3.5	19.0	6.5	32.0	10.0	23.0	16.0	24.0	15.0	25.0	15.5
YEAR	32.0	.0										

06710000 SOUTH PLATTE RIVER AT LITTLETON, CO--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1978 TO SEPTEMBER 1979

DATE TIME	MAY 1,79 1415	JUN 1,79 1200	JUL 13,79 1050	AUG 7,79 1230	SEP 6,79 1340
TOTAL CELLS/ML	13000	2400	12000	8000	7700
DIVERSITY: DIVISION	0.7	0.5	0.5	1.0	1.4
.CLASS	0.7	0.5	0.5	1.0	1.4
..ORDER	1.1	1.1	0.5	1.5	1.5
...FAMILY	1.2	1.5	1.4	1.8	2.4
....GENUS	1.3	1.8	1.4	1.9	2.5

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)										
.CHLOROPHYCEAE										
..CHLOROCOCCALES										
...CHARACIACEAE										
....SCHROEDERIA	--	-	--	-	*	0	--	-	--	-
...MICRACTINIACEAE										
....GOLENKINIA	--	-	--	-	--	-	*	0	--	-
...OOCYSTACEAE										
....ANKISTRODESMUS	--	-	19	1	*	0	--	-	*	0
....CHODATELLA	--	-	--	-	--	-	*	0	--	-
....DICHOTOMOCOCCUS	680	5	--	-	--	-	--	-	--	-
....DICTYOSPHAERIUM	--	-	--	-	--	-	--	-	2900#	38
....NEPHROCYTIUM	110	1	--	-	--	-	--	-	--	-
....OOCYSTIS	--	-	--	-	--	-	70	1	--	-
...SCENEDESMACEAE										
....ACTINASTRUM	--	-	--	-	--	-	--	-	100	1
....SCENEDESMUS	--	-	74	3	150	1	56	1	67	1
....TETRASTRUM	--	-	--	-	*	0	--	-	--	-
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	--	-	--	-	--	-	*	0	--	-
..ZYGNEMATALES										
...DESMIDIACEAE										
....STAURASTRUM	--	-	--	-	--	-	*	0	--	-
CHRYSOPHYTA										
.BACILLARIOPHYCEAE										
..CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	10000#	78	1600#	66	*	0	--	-	67	1
....MELOSIRA	--	-	--	-	--	-	--	-	*	0
....STEPHANODISCUS	--	-	200	9	--	-	--	-	--	-
..PENNALES										
...ACHNANTHACEAE										
....RHOICOSPHENIA	--	-	--	-	*	0	--	-	--	-
...CYMBELLACEAE										
....AMPHORA	--	-	--	-	*	0	--	-	--	-
....CYMBELLA	--	-	37	2	*	0	130	2	1800#	23
...DIATOMACEAE										
....DIATOMA	--	-	240	10	--	-	*	0	230	3
...FRAGILARIACEAE										
....ASTERIONELLA	450	3	--	-	--	-	--	-	--	-
....FRAGILARIA	--	-	--	-	520	4	1300#	16	--	-
....SYNEDRA	560	4	19	1	--	-	*	0	*	0
...GOMPHONEMATACEAE										
....GOMPHONEMA	--	-	19	1	--	-	--	-	--	-
...NAVICULACEAE										
....NAVICULA	--	-	--	-	85	1	130	2	400	5
...NITZSCHIACEAE										
....NITZSCHIA	230	2	110	5	*	0	190	2	1300#	17
CRYPTOPHYTA (CRYPTOMONADS)										
.CRYPTOPHYCEAE										
..CRYPTOMONADALES										
...CRYPTOCHRYSIDACEAE										
....CHROOMONAS	900	7	--	-	--	-	--	-	--	-
...CRYPTOMONADACEAE										
....CRYPTOMONAS	--	-	93	4	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)										
.CYANOPHYCEAE										
..CHROOCOCCALES										
...CHROOCOCCACEAE										
....ANACYSTIS	--	-	--	-	--	-	56	1	--	-
....GOMPHOSPHAERIA	--	-	--	-	--	-	970	12	--	-
..HORMOGONALES										
...NOSTOCACEAE										
....ANABAENA	--	-	--	-	4100#	34	--	-	--	-
...OSCILLATORIACEAE										
....OSCILLATORIA	--	-	--	-	6900#	58	5000#	62	470	6
....SCHIZOTHRIX	--	-	--	-	--	-	--	-	280	3
EUGLENOPHYTA (EUGLENOIDS)										
.EUGLENOPHYCEAE										
..EUGLENALES										
...EUGLENACEAE										
....TRACHELOMONAS	--	-	--	-	*	0	42	1	*	0

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

06710500 BEAR CREEK AT MORRISON, CO

LOCATION.--Lat 39°39'11", long 105°11'43", in SE¼SW¼ sec.35, T.4 S., R.70 W., Jefferson County, Hydrologic Unit 10190002, on left bank at Morrison, 180 ft (55 m) upstream from bridge on State Highway 8 and 0.2 mi (0.3 km) upstream from Mount Vernon Creek.

DRAINAGE AREA.--164 mi² (425 km²).

PERIOD OF RECORD.--September 1887 to September 1891, May 1895 to December 1901, February 1902 (gage heights only), October 1919 to current year. No winter records for water years 1888-90, 1896, 1898, 1900. Monthly discharge only for some periods, published in WSP 1310. Published as "near Morrison" 1900-1902, as "at Starbuck" 1919-28, and as "at Idledale" 1929-34.

REVISED RECORDS.--WSP 976: 1942. WSP 1310: 1888, 1890-91, 1898, 1935(M). WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,780.43 ft (1,761.875 m), National Geodetic Vertical Datum of 1929. See WSP 1710 or 1730 for history of changes prior to Oct. 1, 1934. Oct. 1, 1934, to Oct. 10, 1961, water-stage recorder at site 80 ft (24 m) downstream at same datum.

REMARKS.--Records good except those for winter period, which are fair. Small diversions for irrigation of about 1,000 acres (4.05 km²) above station. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--64 years (water years 1891, 1897, 1899, 1901, 1920-79), 52.5 ft³/s (1.487 m³/s), 38,040 acre-ft/yr (46.9 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,600 ft³/s (244 m³/s), estimated, July 24, 1896; minimum daily, 0.8 ft³/s (0.023 m³/s) Nov. 26, 1939, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 530 ft³/s (15.0 m³/s) at 0600 June 9, gage height, 5.80 ft (2.073 m), only peak above base of 250 ft³/s (7.1 m³/s); minimum daily, 4.0 ft³/s (0.11 m³/s) Jan. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.2	12	9.8	4.0	5.0	7.0	24	62	183	154	46	42
2	5.8	12	7.5	4.5	5.0	7.6	20	107	183	141	42	41
3	6.6	12	7.0	6.5	4.5	7.2	22	89	181	132	39	40
4	7.2	12	8.0	6.0	4.5	6.0	18	98	183	134	36	39
5	6.9	12	8.0	5.5	4.5	7.0	22	139	181	131	32	38
6	7.6	12	7.0	6.5	5.0	8.0	29	159	185	118	31	36
7	7.6	9.8	5.5	5.0	5.0	12	40	175	235	112	29	37
8	8.0	12	5.0	5.5	4.5	15	50	187	458	99	30	35
9	8.0	11	6.5	6.0	4.5	12	50	177	515	92	34	31
10	7.2	12	8.0	6.0	4.8	13	49	161	485	85	50	35
11	7.6	9.4	8.0	7.5	5.2	14	46	157	466	79	42	34
12	6.6	6.9	8.5	9.0	5.8	15	38	179	444	78	34	38
13	6.9	10	8.0	5.0	7.6	16	37	179	435	75	32	38
14	7.6	13	8.0	5.5	9.4	14	47	191	394	71	65	42
15	6.9	11	8.5	6.0	9.0	14	63	201	358	68	86	42
16	8.0	8.6	8.0	6.5	8.6	13	75	212	340	75	54	38
17	8.6	8.0	8.5	6.0	8.6	14	87	215	318	80	50	35
18	9.0	8.0	9.5	6.0	8.6	14	94	212	306	90	81	33
19	9.8	8.0	9.0	6.0	8.3	13	102	210	294	76	84	32
20	9.8	11	7.5	6.0	8.0	13	94	212	245	71	82	30
21	10	8.3	7.5	6.0	7.5	12	84	191	225	67	70	37
22	24	11	8.0	6.5	7.5	13	81	181	210	66	61	34
23	16	9.8	8.0	5.5	6.9	14	82	191	208	62	57	29
24	14	9.4	8.0	6.0	7.2	14	84	183	205	60	56	28
25	18	11	8.0	6.5	7.2	19	89	179	187	57	54	28
26	15	11	6.0	5.0	6.2	22	76	185	173	54	52	29
27	13	9.8	7.5	4.5	6.9	23	74	175	165	52	57	28
28	14	9.0	8.5	4.5	6.0	30	74	175	157	54	51	27
29	14	11	6.0	4.5	---	35	67	181	150	49	48	26
30	13	9.0	5.0	4.5	---	30	60	201	146	47	47	24
31	13	---	4.5	4.5	---	27	---	191	---	46	45	---
TOTAL	315.9	310.0	232.8	177.0	181.8	473.8	1778	5355	8215	2575	1577	1026
MEAN	10.2	10.3	7.51	5.71	6.49	15.3	59.3	173	274	83.1	50.9	34.2
MAX	24	13	9.8	9.0	9.4	35	102	215	515	154	86	42
MIN	5.8	6.9	4.5	4.0	4.5	6.0	18	62	146	46	29	24
AC-FT	627	615	462	351	361	940	3530	10620	16290	5110	3130	2040

CAL YR 1978 TOTAL 5724.3 MEAN 15.7 MAX 91 MIN 2.5 AC-FT 11350
WTR YR 1979 TOTAL 22217.3 MEAN 60.9 MAX 515 MIN 4.0 AC-FT 44070

06711500 BEAR CREEK AT MOUTH, AT SHERIDAN, CO

LOCATION.--Lat 39°39'08", long 105°01'57", in NW¼NW¼ sec.5, T.5 S., R.68 W., Arapahoe County, Hydrologic Unit 10190002, on left bank just downstream from bridge on road to Fort Logan Mental Health Center, at Highway Department maintenance building at northwest city limits of Sheridan, 1.3 mi (2.1 km) upstream from mouth, and 2.1 mi (3.4 km) west of city hall in Englewood.

DRAINAGE AREA.--260 mi^2 (673 km^2).

PERIOD OF RECORD.--April to November 1914, March 1927 to current year. Monthly discharge only prior to October 1933, published in WSP 1310. Published as "at Sheridan Junction" 1934-41.

REVISED RECORDS.--WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 5,295 ft (1,614 m), from topographic map. See WSP 1710 or 1730 for history of changes prior to Oct. 9, 1953. Oct. 9, 1953, to Aug. 6, 1969, water-stage recorder at present site at datum 1.0 ft (0.30 m) higher.

REMARKS.--Records good except those for winter period, which are fair. Storage and diversions above station for irrigation of about 12,000 acres (48.6 km^2). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--52 years, 38.1 ft^3/s (1.079 m^3/s), 27,600 acre-ft/yr (34.0 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,150 ft^3/s (231 m^3/s) May 7, 1969, gage height, 10.5 ft (3.20 m), present datum, from flood marks, from rating curve extended above 3,400 ft^3/s (96 m^3/s); no flow July 13, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 767 ft^3/s (21.7 m^3/s) at 2030 June 11, gage height, 4.64 ft (1.414 m); minimum daily, 5.1 ft^3/s (0.14 m^3/s) Oct. 4, 5, 7, 12-14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.5	7.5	8.3	8.7	8.7	7.6	25	64	227	158	11	12
2	5.5	6.2	8.0	8.7	8.3	9.0	19	131	191	149	10	11
3	5.5	6.3	7.7	8.7	9.4	14	20	116	178	137	9.1	10
4	5.1	6.3	14	8.7	9.0	8.2	16	116	169	112	9.1	11
5	5.1	6.3	10	8.3	9.7	8.2	15	129	167	128	8.3	10
6	5.5	6.7	8.3	8.7	9.8	8.9	17	132	164	124	7.5	12
7	5.1	6.6	8.3	8.3	12	7.4	23	96	234	111	6.7	14
8	5.5	6.3	8.7	7.9	10	9.7	36	172	555	101	7.1	14
9	6.3	6.3	8.3	7.9	12	13	44	193	552	89	7.9	11
10	6.7	6.3	9.0	7.9	13	8.1	56	157	560	64	30	12
11	5.5	7.3	9.5	7.9	11	7.5	65	214	618	56	34	12
12	5.1	7.7	10	7.9	10	7.0	57	271	740	52	32	14
13	5.1	7.3	11	7.1	11	7.1	50	251	620	49	27	19
14	5.1	7.0	14	7.5	10	7.1	51	231	454	44	46	26
15	6.3	7.5	14	7.9	9.2	6.8	60	188	477	39	71	23
16	19	7.3	12	7.9	8.6	6.2	78	193	488	43	62	19
17	16	7.1	11	7.9	7.8	5.3	83	227	347	44	50	16
18	14	7.0	11	10	7.2	14	93	227	311	44	42	14
19	12	7.5	12	9.5	7.2	11	99	213	269	41	63	15
20	7.5	7.5	11	8.7	7.2	9.4	105	238	232	34	52	12
21	7.7	7.6	10	8.7	7.3	8.7	108	255	204	32	37	14
22	44	7.5	8.7	7.5	7.3	16	107	225	188	32	30	15
23	15	7.4	8.3	8.3	7.6	17	105	223	181	29	24	12
24	12	7.2	8.3	8.7	6.9	14	105	213	213	26	24	10
25	13	8.5	7.9	8.7	6.5	15	107	203	201	15	20	9.0
26	10	9.2	7.9	8.7	6.5	15	99	212	188	11	26	10
27	10	7.9	12	8.3	13	17	93	203	181	10	20	12
28	10	8.7	11	8.7	8.6	20	85	197	173	10	19	14
29	9.1	8.0	9.5	8.7	---	23	78	202	162	11	16	14
30	9.1	7.5	10	8.7	---	24	66	256	155	10	14	11
31	7.5	---	8.7	8.5	---	22	---	265	---	11	14	---
TOTAL	298.8	217.5	308.4	259.6	254.8	367.2	1965	6013	9399	1816	829.7	408.0
MEAN	9.64	7.25	9.95	8.37	9.10	11.8	65.5	194	313	58.6	26.8	13.6
MAX	44	9.2	14	10	13	24	108	271	740	158	71	26
MIN	5.1	6.2	7.7	7.1	6.5	5.3	15	64	155	10	6.7	9.0
AC-FT	593	431	612	515	505	728	3900	11930	18640	3600	1650	809

CAL YR 1978 TOTAL 4158.7 MEAN 11.4 MAX 49 MIN 2.5 AC-FT 8250
WTR YR 1979 TOTAL 22137.0 MEAN 60.6 MAX 740 MIN 5.1 AC-FT 43910

06712000 CHERRY CREEK NEAR FRANKTOWN, CO

LOCATION.--Lat 39°21'21", long 104°45'46", in NE¼ sec.15, T.8 S., R.66 W., Douglas County, Hydrologic Unit 10190003, on right bank 1.5 mi (2.4 km) upstream from Russellville Gulch and 2.5 mi (4.0 km) south of Franktown.

DRAINAGE AREA.--169 mi^2 (438 km^2).

PERIOD OF RECORD.--November 1939 to current year.

REVISED RECORDS.--WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 6,170 ft (1,881 m), from topographic map. See WSP 1730 for history of changes prior to Oct. 1, 1953.

REMARKS.--Records fair except those for winter period, which are poor. Many small diversions above station for irrigation of about 800 acres (3.24 km^2). Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--39 years (water years 1941-79), 8.57 ft^3/s (0.243 m^3/s), 6,210 acre-ft/yr (7.66 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,170 ft^3/s (260 m^3/s) Aug. 5, 1945, gage height, 4.91 ft (1.497 m), site and datum then in use, by float measurement; minimum daily, 0.20 ft^3/s (0.006 m^3/s) July 13, 1946, Sept. 30, Oct. 1, 1950.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 3, 1933, caused by Castlewood Dam failure, exceeded all other observed floods at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 200 ft^3/s (5.7 m^3/s), and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
July 17	1815	*1,950	55.2	7.57	2.307	Aug. 18	1715	506	14.3	5.26	1.603

Minimum daily discharge, 0.82 ft^3/s (0.023 m^3/s) Oct. 17, 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.90	1.5	2.4	2.0	1.5	5.0	15	5.3	12	3.4	20	1.7
2	.90	1.4	2.4	2.0	1.5	5.0	12	6.2	11	3.4	3.2	1.7
3	.90	1.5	2.2	2.0	1.7	5.0	15	11	9.2	3.3	2.3	1.7
4	.94	1.5	2.2	2.0	1.7	5.0	13	8.0	8.0	3.5	1.8	1.6
5	.94	1.5	2.1	1.6	1.7	5.0	18	6.4	7.0	3.7	1.8	1.5
6	.90	1.5	2.1	1.6	2.5	5.0	57	5.7	5.9	3.6	1.8	1.5
7	.94	1.5	2.1	1.6	3.0	5.0	41	4.9	5.9	3.6	1.8	1.5
8	.90	1.5	2.1	1.7	3.4	5.0	28	4.3	20	3.5	1.8	1.5
9	.86	1.5	2.2	1.8	3.4	5.0	21	4.4	48	3.4	1.8	1.5
10	.86	1.6	2.3	1.8	3.4	5.0	19	5.5	28	3.2	2.1	1.5
11	.86	1.6	2.5	1.8	3.4	6.8	30	6.1	16	3.0	1.8	1.4
12	.86	1.6	2.6	1.9	3.4	11	21	5.1	12	2.9	1.8	1.4
13	.86	1.6	2.6	2.0	3.4	14	53	4.6	9.6	3.0	1.8	1.4
14	.86	1.7	2.6	2.2	3.4	12	89	4.2	8.1	3.1	2.0	1.4
15	.86	1.8	2.6	2.4	3.4	11	80	3.7	6.4	3.1	1.8	1.4
16	.94	1.8	2.8	2.4	3.7	11	43	3.1	5.2	3.7	1.8	1.4
17	.82	1.8	2.6	2.4	3.7	11	29	2.7	4.6	187	1.8	1.4
18	.82	1.9	2.7	2.4	3.7	9.4	21	2.4	3.9	16	37	1.4
19	.86	1.8	2.6	2.2	3.7	8.5	16	4.7	3.4	4.2	2.9	1.4
20	.90	2.0	2.4	2.2	3.7	9.2	13	6.8	3.1	2.8	1.8	1.3
21	.94	2.0	2.2	2.0	3.7	10	11	7.3	2.9	2.4	1.7	1.3
22	1.6	2.0	2.2	2.0	3.7	11	9.0	6.4	2.8	2.2	1.7	1.3
23	1.5	2.0	2.2	2.0	3.7	9.0	7.5	6.1	2.6	2.2	1.8	1.3
24	1.4	2.0	2.2	2.0	3.7	9.4	6.8	6.3	2.7	2.2	2.0	1.3
25	1.5	2.1	2.2	2.0	3.7	9.9	6.7	6.3	2.6	2.2	1.8	1.3
26	1.6	2.2	2.2	1.8	3.7	16	6.7	6.2	2.4	2.0	1.8	1.2
27	1.5	2.2	2.2	1.8	3.9	31	6.2	5.9	2.4	2.0	1.8	1.2
28	1.4	2.4	2.2	1.8	4.4	42	6.0	5.6	2.3	2.0	1.8	1.2
29	1.4	2.4	2.2	1.8	---	41	5.9	5.8	3.0	2.0	1.8	1.1
30	1.4	2.4	2.2	1.7	---	29	5.6	6.3	3.4	2.0	1.8	1.1
31	1.4	---	2.0	1.6	---	20	---	11	---	2.0	1.7	---
TOTAL	33.32	54.3	72.1	60.5	89.8	382.2	705.4	178.3	254.4	286.6	112.6	41.9
MEAN	1.07	1.81	2.33	1.95	3.21	12.3	23.5	5.75	8.48	9.25	3.63	1.40
MAX	1.6	2.4	2.8	2.4	4.4	42	89	11	48	187	37	1.7
MIN	.82	1.4	2.0	1.6	1.5	5.0	5.6	2.4	2.3	2.0	1.7	1.1
AC-FT	66	108	143	120	178	758	1400	354	505	568	223	83

CAL YR 1978 TOTAL 1165.95 MEAN 3.19 MAX 83 MIN .46 AC-FT 2310
WTR YR 1979 TOTAL 2271.42 MEAN 6.22 MAX 187 MIN .82 AC-FT 4510

NOTE.--NO GAGE-HEIGHT RECORD JAN. 21 TO MAR. 13.

06713000 CHERRY CREEK BELOW CHERRY CREEK LAKE, CO

LOCATION.--Lat 39°39'12", long 104°51'41", in SW¼SW¼ sec.35, T.4 S., R.67 W., Arapahoe County, Hydrologic Unit 10190003, on right bank 2,000 ft (610 m) downstream from Cherry Creek Dam, 2.2 mi (3.5 km) southeast of Sullivan, 9 mi (14 km) southeast of Civic Center in Denver, and 11 mi (18 km) upstream from mouth.

DRAINAGE AREA.--385 mi² (997 km²).

PERIOD OF RECORD.--June 1950 to current year.

REVISED RECORDS.--WSP 1730: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 5,490.51 ft (1,673.507 m) (Corps of Engineers bench mark).

REMARKS.--Records good. Flow regulated by Cherry Creek Lake (see elsewhere in this report). Diversions above station for irrigation of about 1,800 acres (7.28 km²). Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--29 years, 3.94 ft³/s (0.112 m³/s), 2,850 acre-ft/yr (3.51 hm³/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,440 ft³/s (40.8 m³/s) July 31, 1956, gage height, 6.07 ft (1.850 m); no flow most of time since May 1957.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum flood known, 34,000 ft³/s (963 m³/s) Aug. 3, 1933, by slope-area measurement near present site (Castlewood Dam failure).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3.8 ft³/s (0.11 m³/s) at 1700 Apr. 30, gage height, 3.20 ft (0.975 m); no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.35	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.21	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.04	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.12	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	.00	.00	.00	.00	.00	.00	.12	.35	.00	.00	.25	.00
MEAN	.000	.000	.000	.000	.000	.000	.004	.011	.000	.000	.008	.000
MAX	.00	.00	.00	.00	.00	.00	.12	.35	.00	.00	.21	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	.2	.7	.00	.00	.5	.00

CAL YR 1978 TOTAL 0.00 MEAN .000 MAX .00 MIN .00 AC-FT .00
WTR YR 1979 TOTAL 0.72 MEAN .002 MAX .35 MIN .00 AC-FT 1.4

06714000 SOUTH PLATTE RIVER AT DENVER, CO

LOCATION.--Lat 39°45'35", long 105°00'10", in NW¼SE¼ sec.28, T.3 S., R.68 W., Denver County, Hydrologic Unit 10190003, on right bank 90 ft (27 m) upstream from Nineteenth Street Bridge in Denver and 0.4 mi (0.6 km) downstream from Cherry Creek.

DRAINAGE AREA.--3,804 mi² (9,852 km²).

PERIOD OF RECORD.--May to October 1889, June to October 1890, July 1895 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1310: 1934(M). WSP 1730: 1957(M), drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,157.64 ft (1,572.049 m) National Geodetic Vertical Datum, adjustment of 1960. Prior to Aug. 12, 1909, nonrecording gages, and Aug. 12, 1909, to Aug. 28, 1931, water-stage recorder, at several sites within 0.5 mi (0.8 km) of present site at various datums. Aug. 29, 1931, to June 28, 1965, water-stage recorder at site 70 ft (21 m) downstream at datum 3.66 ft (1.116 m) higher. June 29, 1965, to Mar. 18, 1966, water-stage recorder at site 70 ft (21 m) downstream at present datum.

REMARKS.--Records good. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation of about 79,000 acres (320 km²) and municipal use, and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--79 years (water years 1896-1974), 344 ft³/s (9.742 m³/s), 249,200 acre-ft/yr (308 hm³/yr), prior to completion of Chatfield Lake.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,300 ft³/s (1,140 m³/s) June 17, 1965, gage height, 18.66 ft (5.688 m), from flood marks, present datum, from rating curve extended above 2,700 ft³/s (76 m³/s), on basis of contracted-opening measurement of peak flow; minimum daily, 8.8 ft³/s (0.25 m³/s) Mar. 25, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,260 ft³/s (121 m³/s) at 2130 Aug. 16, gage height, 6.09 ft (1.856 m); minimum daily, 48 ft³/s (1.36 m³/s) Jan. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59	122	63	104	74	88	288	565	558	1010	366	115
2	63	122	65	100	72	109	193	2050	487	844	358	98
3	70	113	60	111	80	177	245	488	450	722	316	104
4	70	111	172	109	71	94	180	252	438	705	279	104
5	70	113	118	65	80	73	168	265	426	1100	271	100
6	67	118	64	57	78	77	170	572	432	1170	276	82
7	68	118	60	48	113	77	163	480	942	1720	282	87
8	62	138	57	49	94	95	175	395	1950	1390	290	84
9	62	255	58	54	120	188	193	438	1080	1180	361	74
10	62	165	61	54	143	88	577	320	657	1040	626	80
11	63	172	61	54	122	67	881	260	641	966	296	107
12	63	170	94	56	106	73	515	375	937	756	313	120
13	61	160	74	52	124	67	342	354	966	618	263	151
14	62	75	80	52	118	65	303	342	1500	610	765	267
15	58	64	77	60	88	71	310	303	1890	602	400	143
16	68	61	68	60	75	87	330	306	2480	572	888	124
17	66	61	62	57	74	90	350	385	2510	508	1000	111
18	64	61	67	57	74	225	456	395	2420	480	808	106
19	67	59	74	58	78	170	456	400	2380	385	970	123
20	61	60	62	58	77	139	462	729	2300	380	713	109
21	78	60	61	63	75	104	468	468	2070	410	420	115
22	869	58	100	61	75	398	468	438	1570	456	405	96
23	188	57	113	56	75	234	468	595	1370	474	390	84
24	109	56	118	59	74	200	456	558	1300	508	296	83
25	143	155	113	70	74	172	565	550	1500	474	208	75
26	96	213	111	71	74	168	468	572	1290	342	384	79
27	82	182	118	65	214	155	444	658	966	213	196	84
28	78	104	120	62	118	153	250	543	1410	168	198	82
29	74	86	111	66	---	151	491	543	1300	188	190	83
30	70	64	111	61	---	153	529	714	1140	310	229	94
31	94	---	109	64	---	180	---	790	---	334	216	---
TOTAL	3167	3353	2682	2013	2640	4188	11364	16103	39360	20635	12893	3164
MEAN	102	112	86.5	64.9	94.3	135	379	519	1312	666	416	105
MAX	869	255	172	111	214	398	881	2050	2510	1720	1000	267
MIN	58	56	57	48	71	65	163	252	426	168	158	74
AC-FT	6280	6650	5320	3990	5240	8310	22540	31940	78070	40930	25570	6280

CAL YR 1978 TOTAL 51429 MEAN 141 MAX 869 MIN 43 AC-FT 102000
WTR YR 1979 TOTAL 121562 MEAN 333 MAX 2510 MIN 48 AC-FT 241100

06716500 CLEAR CREEK NEAR LAWSON, CO

LOCATION.--Lat 39°45'57", long 105°37'32", in NW¼NW¼ sec.25, T.3 S., R.74 W., Clear Creek County, Hydrologic Unit 10190004, on left bank at east edge of Lawson, 30 ft (9 m) downstream from private bridge, and 2.0 mi (3.2 km) downstream from West Fork Clear Creek.

DRAINAGE AREA.--147 mi² (381 km²).

PERIOD OF RECORD.--March 1946 to current year. Records prior to 1959 include inflow from August P. Gumlick Tunnel (formerly Jones Pass tunnel).

REVISED RECORDS.--WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 8,080 ft (2,463 m), from topographic map. Mar. 29, 1946, to Sept. 30, 1967, at site 1.5 mi (2.4 km) upstream at different datum.

REMARKS.--Records good except those for winter period, which are poor. Natural flow affected by minor transmountain diversion from Colorado River basin through Berthoud Pass ditch (see elsewhere in this report). No diversion above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--33 years, 136 ft³/s (3.852 m³/s), 98,530 acre-ft/yr (121 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,130 ft³/s (174 m³/s) June 4, 1956, gage height, 7.41 ft (2.259 m), site and datum then in use, from rating curve extended above 1,600 ft³/s (45 m³/s), on basis of computation of peak flow over dam, caused by failure of Georgetown Dam on White Reservoir 5.0 mi (8.0 km) upstream; minimum daily, 13 ft³/s (0.37 m³/s) Feb. 20, 1955.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 895 ft³/s (25.3 m³/s) at 2400 June 16, gage height, 5.56 ft (1.695 m), only peak above base of 600 ft³/s (17 m³/s); minimum daily, 19 ft³/s (0.54 m³/s) Jan. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53	41	31	19	23	27	30	50	333	733	216	96
2	45	41	27	23	23	27	29	58	312	706	208	91
3	44	41	28	23	24	27	30	51	311	666	196	91
4	44	41	30	21	24	27	30	50	328	675	176	91
5	41	40	29	21	25	27	31	53	380	621	172	89
6	40	41	27	24	26	27	31	57	456	589	162	88
7	40	36	24	23	27	28	32	63	532	561	156	86
8	40	41	23	23	27	30	32	67	487	527	156	85
9	44	37	25	22	26	30	32	64	422	499	151	83
10	45	36	27	22	26	29	32	59	377	474	153	78
11	42	33	30	24	26	31	33	59	388	456	150	72
12	40	41	32	23	26	32	31	57	431	436	144	76
13	40	37	31	22	28	31	32	55	551	429	149	76
14	38	35	33	22	28	31	32	57	685	429	187	76
15	39	34	32	24	28	31	33	64	737	424	184	74
16	39	34	29	26	28	31	35	72	787	414	177	73
17	38	31	29	25	28	30	36	92	815	397	206	70
18	42	34	31	25	27	31	38	113	778	380	206	64
19	44	36	32	25	28	30	47	138	667	358	202	62
20	41	35	31	25	28	30	47	170	580	342	189	61
21	43	33	31	28	28	30	46	170	584	338	171	64
22	51	34	31	23	28	30	48	181	608	336	158	64
23	47	33	31	22	27	29	47	206	664	317	149	59
24	50	31	31	24	27	29	48	240	697	310	146	54
25	55	32	30	26	27	30	52	271	714	296	141	56
26	44	32	29	23	28	29	45	285	703	285	135	61
27	48	29	30	24	29	29	42	324	728	278	129	62
28	52	30	31	21	28	30	51	364	738	280	125	65
29	48	31	27	21	---	30	46	436	747	258	119	66
30	43	31	24	21	---	29	46	450	745	238	110	59
31	42	---	22	22	---	30	---	383	---	230	101	---
TOTAL	1362	1061	898	717	748	912	1144	4759	17285	13282	5024	2192
MEAN	43.9	35.4	29.0	23.1	26.7	29.4	38.1	154	576	428	162	73.1
MAX	55	41	33	28	29	32	52	450	815	733	216	96
MIN	38	29	22	19	23	27	29	50	311	230	101	54
AC-FT	2700	2100	1780	1420	1480	1810	2270	9440	34280	26340	9970	4350

CAL YR 1978 TOTAL 51249 MEAN 140 MAX 998 MIN 17 AC-FT 101700
WTR YR 1979 TOTAL 49384 MEAN 135 MAX 815 MIN 19 AC-FT 97950

06719505 CLEAR CREEK AT GOLDEN, CO

LOCATION.--Lat 39°45'11", long 105°14'05", in NE¼NW¼ sec.33, T.3 S., R.70 W., Jefferson County, Hydrologic Unit 10190004, on left bank 100 ft (30 m) downstream from U.S. Highway 6 bridge at west edge of Golden, 0.7 mi (1.1 km) downstream from headgate of Church ditch, and 13.3 mi (21.4 km) downstream from North Clear Creek.

DRAINAGE AREA.--400 mi^2 (1,036 km^2).

PERIOD OF RECORD.--October 1974 to current year. Records for station at site 0.8 mi (1.3 km) upstream (October 1908 to December 1919, June 1911 to September 1974) are not equivalent due to diversions.

GAGE.--Water-stage recorder. Altitude of gage is 5,695 ft (1,736 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Natural flow of stream affected by minor transmountain diversions from Colorado River basin through Berthoud Pass ditch (see elsewhere in this report) and several small reservoirs above station. Diversion by Welch ditch 1.4 mi (2.3 km) upstream and by Church Ditch 0.7 mi (1.1 km) upstream for irrigation of about 5,200 acres (21.0 km^2) below station. Several observations of water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--5 years, 161 ft^3/s (4.560 m^3/s), 116,600 acre-ft/yr (144 hm^3/yr).

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,460 ft^3/s (41.3 m^3/s) June 17, 1979, gage height, 4.63 ft (1.411 m); minimum daily, 19 ft^3/s (0.54 m^3/s) Mar. 20, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,460 ft^3/s (34.6 m^3/s) at 0700 June 17, gage height, 4.63 ft (1.411 m); only peak above base of 1,100 ft^3/s (31 m^3/s); minimum daily, 25 ft^3/s (0.71 m^3/s) Jan. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71	51	46	25	32	47	40	78	607	1030	255	117
2	63	52	36	40	32	41	34	112	562	998	221	122
3	59	51	38	30	33	37	39	95	541	938	206	147
4	58	51	42	27	33	37	35	73	569	975	193	147
5	58	50	40	27	35	41	39	85	641	887	199	145
6	56	48	36	28	37	39	42	98	783	826	194	137
7	54	46	30	28	38	38	48	106	980	775	183	132
8	52	49	28	31	36	40	49	120	973	733	191	130
9	55	46	32	30	40	38	51	115	883	677	215	126
10	55	46	40	30	42	34	51	105	830	629	225	122
11	52	41	44	33	45	40	51	105	881	584	192	111
12	52	44	48	31	45	43	44	115	915	541	178	117
13	50	53	46	28	47	40	45	120	1070	512	178	114
14	51	42	49	28	45	39	49	125	1200	513	239	116
15	48	39	47	32	40	39	54	135	1240	507	250	110
16	49	33	43	35	38	40	60	150	1280	492	208	105
17	46	38	43	33	40	41	70	180	1290	518	248	97
18	49	38	46	34	43	39	73	200	1260	469	254	91
19	54	44	47	33	45	37	84	235	1100	418	248	88
20	52	43	45	33	45	36	84	290	897	407	244	94
21	49	43	46	37	43	36	78	285	874	390	215	104
22	74	44	46	30	43	38	78	310	903	425	190	101
23	58	47	45	28	40	36	79	365	974	376	178	98
24	61	44	46	31	43	36	77	410	994	368	166	93
25	65	48	44	34	45	39	84	480	1010	355	161	91
26	57	45	43	30	48	39	76	510	976	330	152	93
27	59	41	45	32	44	39	69	545	994	308	150	95
28	58	39	46	27	44	41	77	675	1010	314	146	95
29	61	47	37	27	---	44	76	760	1020	288	138	96
30	55	46	33	27	---	40	72	815	1030	265	136	95
31	53	---	30	29	---	39	---	708	---	246	129	---
TOTAL	1734	1349	1287	948	1141	1213	1808	8505	28287	17094	6082	3331
MEAN	55.9	45.0	41.5	30.6	40.8	39.1	60.3	274	943	551	196	111
MAX	74	53	49	40	48	47	84	815	1290	1030	255	147
MIN	46	33	28	25	32	34	34	73	541	246	129	88
AC-FT	3440	2680	2550	1880	2260	2410	3590	16870	56110	33910	12060	6610

CAL YR 1978 TOTAL 61893 MEAN 170 MAX 1140 MIN 20 AC-FT 122800
WTR YR 1979 TOTAL 72779 MEAN 199 MAX 1290 MIN 25 AC-FT 144400

06720000 CLEAR CREEK AT MOUTH, NEAR DERBY, CO

LOCATION.--Lat 39°49'42", long 104°57'30", in SW¼SW¼ sec.36, T.2 S., R.68 W., Adams County, Hydrologic Unit 10190004, on right bank 210 ft (64 m) downstream from York Street bridge, 0.6 mi (1.0 km) upstream from mouth, and 2.5 mi (4.0 km) west of Derby.

DRAINAGE AREA.--575 mi² (1,489 km²).

PERIOD OF RECORD.--April to November 1914, March 1927 to current year. Prior to October 1933, monthly discharge only, published in WSP 1310.

REVISED RECORDS.--WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 5,110 ft (1,558 m), from topographic map. See WSP 1710 or 1730 for history of changes prior to July 16, 1958. July 16, 1958, to Sept. 20, 1965, water-stage recorder at site 50 ft (15 m) upstream at datum 1.56 ft (0.475 m) higher.

REMARKS.--Records good except those for winter period, which are fair. Natural flow of stream affected by transmountain diversions (see elsewhere in this report), storage reservoirs, diversions for irrigation of about 75,000 acres (304 km²) above station, and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--52 years, 90.8 ft³/s (2.571 m³/s), 65,780 acre-ft/yr (81.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,070 ft³/s (144 m³/s) July 24, 1965, gage height, 8.97 ft (2.734 m), present datum; minimum daily, 0.4 ft³/s (0.011 m³/s) Mar. 11, 1943.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,010 ft³/s (56.9 m³/s) at 0200 June 8, gage height, 5.46 ft (1.664 m); minimum daily, 1.6 ft³/s (0.045 m³/s) Nov. 14, 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.9	5.7	11	4.0	8.0	10	48	16	426	447	15	8.1
2	6.1	4.7	10	4.5	8.0	12	27	343	276	427	12	6.1
3	6.2	3.5	10	5.0	8.0	31	30	141	225	420	9.0	6.7
4	5.3	3.0	12	5.0	8.0	17	26	60	198	433	9.4	8.6
5	4.1	2.9	13	4.5	8.0	15	22	36	209	381	10	8.0
6	3.2	2.7	11	4.5	8.5	16	17	32	393	435	11	7.9
7	2.8	2.3	9.0	4.0	9.0	15	14	32	776	412	9.8	6.9
8	3.0	1.9	8.0	4.5	9.0	22	12	102	1630	331	10	6.5
9	3.2	1.9	10	5.0	9.0	38	13	148	1290	280	41	7.0
10	3.6	1.8	13	7.0	10	22	49	71	865	232	207	7.1
11	3.6	1.8	15	5.5	11	19	177	43	875	191	100	8.9
12	3.2	1.7	21	6.0	11	19	110	44	902	174	33	9.5
13	3.2	1.7	16	5.0	20	16	81	41	901	129	22	11
14	2.6	1.6	16	5.0	17	12	49	30	993	117	182	36
15	2.3	1.6	15	7.0	12	10	37	29	1030	112	172	12
16	2.7	1.7	14	7.5	11	9.5	31	42	1030	113	91	10
17	4.1	3.1	13	7.5	10	7.5	26	56	1080	101	102	10
18	4.1	4.3	14	7.5	9.0	82	26	71	1040	118	188	8.6
19	4.1	6.3	13	7.5	8.5	34	22	93	941	79	227	7.6
20	3.5	11	11	7.5	8.5	28	21	204	774	52	185	7.9
21	3.1	14	12	7.5	8.5	24	23	174	669	38	132	8.5
22	226	11	12	8.0	10	68	18	47	465	80	68	8.8
23	70	9.4	9.7	7.0	9.0	57	18	39	630	58	42	7.4
24	34	9.1	11	7.5	7.0	37	10	48	737	18	37	9.1
25	39	11	8.5	8.0	5.8	24	67	84	676	25	22	8.0
26	31	18	8.0	7.0	4.8	21	36	173	563	18	45	7.1
27	15	14	9.0	6.0	41	16	33	437	552	13	67	5.3
28	6.7	12	10	6.5	17	14	23	408	484	12	39	5.5
29	5.4	12	7.0	6.5	---	13	29	361	392	14	32	5.3
30	5.3	11	5.0	6.5	---	12	17	467	389	18	29	5.8
31	5.7	---	4.5	7.0	---	23	---	628	---	25	19	---
TOTAL	517.0	186.7	351.7	191.5	306.6	744.0	1112	4500	21411	5303	2168.2	267.2
MEAN	16.7	6.22	11.3	6.18	11.0	24.0	37.1	145	714	171	69.9	8.91
MAX	226	18	21	8.0	41	82	177	628	1630	447	227	38
MIN	2.3	1.6	4.5	4.0	4.8	7.5	10	16	198	12	9.0	5.3
AC-FT	1030	370	698	380	608	1480	2210	8930	42470	10520	4300	530

CAL YR 1978 TOTAL 20156.5 MEAN 55.2 MAX 682 MIN 1.6 AC-FT 39980
WTR YR 1979 TOTAL 37058.9 MEAN 102 MAX 1630 MIN 1.6 AC-FT 73510

06720330 GRANGE HALL CREEK AT GRANT PARK AT NORTHGLENN, CO

LOCATION.--Lat 39°53'17", long 104°58'56", in SW¼SE¼ sec.10, T.2 S., R.68 W., Adams County, Hydrologic Unit 10190003, on left bank at east end of Grant Park at upstream side of culvert at Grant Drive between 105th and 106th street at Northglenn.

DRAINAGE AREA.--0.54 mi² (1.40 km²).

PERIOD OF RECORD.--December 1977 to September 1979 (discontinued).

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Altitude of gage is 5,311 ft (1,619 m), from topographic map.

REMARKS.--Records fair except those for period of no gage-height record, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 366 ft³/s (10.4 m³/s) May 17, 1978, gage height, 10.85 ft (3.307 m); minimum daily, 0.08 ft³/s (0.002 m³/s) Jan. 30, 31, Feb. 1, 3, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 295 ft³/s (8.35 m³/s) June 7, gage height, 3.97 ft (1.210 m); minimum daily, 0.13 ft³/s (0.004 m³/s) Dec. 21, 23, 25, 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.18	.17	.18	.14	.14	.28	.60	.21	.26	.26	.30	.24
2	.18	.18	.16	.14	.16	.18	.35	5.5	.24	.28	.24	.24
3	.19	.20	.16	.14	.18	.40	.30	1.0	.24	.28	.28	.24
4	.18	.17	1.3	.14	.20	.22	.30	.23	.26	.26	.28	.26
5	.16	.17	.19	.14	.25	.18	.28	.26	.28	.28	.30	.24
6	.16	.17	.18	.14	.18	.18	.22	.26	.28	.38	.34	.24
7	.17	.16	.16	.14	.15	.20	.20	.70	4.0	.24	.32	.23
8	.17	.16	.15	.14	.15	.30	.20	3.6	13	.26	.30	.23
9	.19	.17	.14	.14	.15	.70	.20	1.2	7.6	.28	.58	.24
10	.21	.21	.14	.14	.15	.90	1.3	.46	1.3	.23	1.1	.26
11	.21	.19	.24	.14	.15	.20	.40	.28	.60	.23	.32	.26
12	.24	.20	1.7	.14	.15	.20	.23	.23	.30	.23	.28	.26
13	.16	.18	.22	.14	.15	.20	.23	.23	.28	.26	.34	.30
14	.16	.18	.43	.14	.15	.20	.23	.23	.26	.28	2.3	.64
15	.16	.17	.20	.14	.15	.20	.23	.48	.24	.34	.40	.35
16	.17	.17	.15	.14	.15	.20	.23	.24	.24	.23	.35	.30
17	.17	.16	.15	.14	.15	.20	.23	.38	.92	.23	.35	.28
18	.21	.16	.17	.14	.15	.20	.23	.28	.26	.23	3.0	.28
19	.17	.16	.19	.14	.15	.20	.23	.42	.28	.23	2.5	.28
20	.17	.16	.15	.14	.15	.20	.23	.40	.27	.23	.42	.30
21	.87	.16	.13	.14	.15	.20	.23	.24	.26	.23	.42	.28
22	10	.16	.14	.14	.15	.20	.23	.32	.25	.23	.40	.28
23	.48	.16	.13	.14	.15	.20	.23	.24	.25	.23	.40	.28
24	.22	.16	.14	.14	.15	.30	.23	.26	.25	.23	.26	.23
25	3.6	.24	.13	.14	.16	.40	.90	.32	.25	.23	.34	.24
26	.20	.24	.13	.14	.18	.26	.25	.34	.25	.23	.74	.24
27	.19	.16	.14	.14	.25	.22	.25	.28	.26	.23	.32	.23
28	.19	.15	.14	.14	.50	.20	.25	.28	.26	.25	.26	.23
29	.23	.15	.14	.14	---	.20	.24	.50	.28	.25	.26	.22
30	.18	.15	.15	.14	---	.20	.21	.82	.28	.32	.24	.22
31	.17	---	.14	.14	---	.40	---	.70	---	.45	.24	---
TOTAL	19.94	5.22	7.87	4.34	4.90	7.92	9.44	20.89	33.70	8.12	18.18	8.12
MEAN	.64	.17	.25	.14	.18	.26	.31	.67	1.12	.26	.59	.27
MAX	10	.24	1.7	.14	.50	.70	1.3	5.5	13	.45	3.0	.64
MIN	.16	.15	.13	.14	.14	.18	.20	.21	.24	.23	.24	.22
AC-FT	40	10	16	8.6	9.7	16	19	41	67	16	36	16

CAL YR 1978 TOTAL 168.67 MEAN .46 MAX 11 MIN .08 AC-FT 335
WTR YR 1979 TOTAL 148.64 MEAN .41 MAX 13 MIN .13 AC-FT 295

NOTE.--NO GAGE-HEIGHT RECORD DEC. 31 TO APR. 30.

06720415 GRANGE HALL CREEK AT NORTHGLENN, CO

LOCATION.--Lat 39°53'21", long 104°57'40", in NE¼SE¼ sec.11, T.2 S., R.68 W., Adams County, Hydrologic Unit 10190003, on right bank 50 ft (15 m) below south tributary and 800 ft (244 m) east of Irma Drive at Northglenn.

DRAINAGE AREA.--3.08 mi² (7.98 km²) of which 0.03 mi² (0.08 km²) is noncontributing.

PERIOD OF RECORD.--December 1977 to current year.

GAGE.--Water-stage recorder and trapezoidal flume. Altitude of gage is 5,205 ft (1,586 m), from topographic map.

REMARKS.--Records good except those for period Jan. 1, 1979, to Mar. 23, 1979, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 876 ft³/s (24.8 m³/s) Aug. 10, 1979, gage height, 4.62 ft (1.408 m); minimum daily, 0.07 ft³/s (0.002 m³/s) Dec. 31, 1978, Jan. 14, 22, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 876 ft³/s (24.8 m³/s) at 0445 Aug. 10, gage height, 4.62 ft (1.408 m); minimum daily, 0.07 ft³/s (0.002 m³/s) Dec. 31, Jan. 14, 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	.67	.40	.10	.22	.17	3.7	.82	2.0	.40	.98	1.1
2	2.0	.67	.28	.10	.40	1.4	1.1	30	1.8	.40	.74	1.1
3	1.8	.67	.28	.10	.34	3.2	2.0	5.8	1.4	.53	1.1	1.5
4	1.5	1.2	3.6	.12	.28	.22	.60	1.8	.82	.60	.98	1.5
5	1.5	.67	.34	.12	1.2	.22	.40	1.1	.46	.60	.90	1.1
6	1.6	.74	.22	.22	2.0	.22	.40	.90	.60	.82	.90	.90
7	1.8	.74	.22	.18	2.0	.28	.28	.90	30	.67	.82	1.4
8	2.0	.67	.17	.17	1.6	2.6	.22	17	65	.74	.74	1.4
9	2.0	.46	.22	.17	1.2	4.9	.28	8.0	60	.74	18	.90
10	1.8	.60	.22	.17	1.1	2.0	4.9	3.4	6.4	.82	50	.98
11	1.8	.53	.53	.17	1.3	.98	15	2.0	1.8	1.1	5.8	.90
12	2.4	.53	1.3	.17	1.5	.98	6.5	1.4	1.1	1.2	2.5	.67
13	2.2	.60	.74	.12	1.5	.98	2.8	1.1	1.1	1.1	1.1	1.7
14	2.0	.53	.98	.07	1.1	.88	1.4	.98	.67	1.4	9.2	1.8
15	1.8	.46	.53	.28	1.2	.96	.74	.98	.60	1.2	3.0	1.1
16	1.6	.46	.22	.12	1.5	1.0	.46	.98	.74	.98	1.4	.90
17	1.1	.40	.22	.12	1.6	1.0	.34	2.8	2.1	.82	.98	.60
18	1.8	.34	.46	.12	1.6	1.0	.28	.98	.40	.74	12	.60
19	5.7	.34	.60	.12	1.5	1.3	.22	.82	.53	.90	8.1	1.1
20	6.0	.34	.17	.12	1.5	1.7	.22	5.0	.40	.74	2.8	1.2
21	7.5	.34	.22	.12	1.7	2.3	.28	.82	.40	.82	1.5	1.3
22	22	.34	.22	.07	1.8	2.9	.34	1.5	.46	.60	1.2	1.1
23	4.4	.28	.17	.10	1.1	2.9	.46	.60	.40	.46	1.2	1.1
24	1.6	.28	.17	.11	.86	1.8	.34	.53	.40	.46	1.1	.98
25	3.8	.60	.12	.12	.98	.82	5.6	.67	.40	.60	1.6	.98
26	1.1	.74	.12	.12	.17	.82	.53	.60	.40	.60	21	1.1
27	.98	.28	.12	.12	5.6	.40	.67	.40	.46	.67	7.3	1.1
28	.82	.28	.17	.12	.28	.34	.53	.28	.46	.60	3.3	1.1
29	.82	.28	.12	.11	---	.28	.53	5.0	.53	.60	1.3	.98
30	.67	.28	.10	.11	---	.93	.53	6.1	.40	1.1	1.2	.98
31	.67	---	.07	.15	---	2.9	---	2.0	---	1.4	1.2	---
TOTAL	89.26	15.32	13.30	4.11	37.13	42.38	51.65	105.26	182.23	24.41	163.94	33.17
MEAN	2.88	.51	.43	.13	1.33	1.37	1.72	3.40	6.07	.79	5.29	1.11
MAX	22	1.2	3.6	.28	5.6	4.9	15	30	65	1.4	50	1.8
MIN	.67	.28	.07	.07	.17	.17	.22	.28	.40	.40	.74	.60
AC-FT	177	30	26	8.2	74	84	102	209	361	48	325	66

CAL YR 1978 TOTAL 649.86 MEAN 1.78 MAX 26 MIN .07 AC-FT 1290
WTR YR 1979 TOTAL 762.16 MEAN 2.09 MAX 65 MIN .07 AC-FT 1510

06720500 SOUTH PLATTE RIVER AT HENDERSON, CO

LOCATION.--Lat 39°55'19", long 104°52'00", in SE¼NE¼ sec.34, T.1 S., R.67 W., Adams County, Hydrologic Unit 10190003, on right bank 500 ft (150 m) upstream from bridge on State Highway 22 and 0.2 mi (0.3 km) northwest of Henderson.

DRAINAGE AREA.--4,713 mi² (12,207 km²).

PERIOD OF RECORD.--May 1926 to current year. Prior to October 1933, monthly discharge only, published in WSP 1310.

REVISED RECORDS.--WSP 1310: 1934-36(M). WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,003.12 ft (1,524.951 m) National Geodetic Vertical Datum of 1929. See WSP 1710 or 1730 for history of changes prior to June 1, 1960. June 1, 1960, to May 10, 1969, water-stage recorder at site 1,200 ft (370 m) upstream at datum 2.00 ft (0.610 m) higher. May 11 to Oct. 2, 1969, nonrecording gage at site 500 ft (150 m) downstream at present datum.

REMARKS.--Records good. Natural flow of stream affected by transmountain diversions, storage reservoirs, ground-water withdrawals, diversions for irrigation of about 253,000 acres (1,020 km²), and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--48 years (water years 1927-74), 366 ft³/s (10.37 m³/s), 265,200 acre-ft/yr (327 hm³/yr), prior to completion of Chatfield Dam; 5 years (water years 1975-79), 353 ft³/s (9.999 m³/s), 255,700 acre-ft/yr (315 hm³/yr), subsequent to completion of Chatfield Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,000 ft³/s (935 m³/s) May 6, 1973, gage height, 11.67 ft (3.557 m), from rating curve extended above 7,200 ft³/s (200 m³/s), partly on basis of flow-over-road measurement of peak flow; maximum gage height, 12.93 ft (3.941 m) June 17, 1965, site and datum then in use; minimum daily discharge, 4.4 ft³/s (0.12 m³/s) Apr. 1, 1950.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,600 ft³/s (215 m³/s) at 1630 May 2, gage height, 7.41 ft (2.259 m); minimum daily, 130 ft³/s (3.68 m³/s) Oct. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	167	210	216	191	176	207	308	269	776	860	520	229
2	173	213	232	200	185	200	276	2860	628	802	525	266
3	167	216	203	197	185	237	280	1380	646	664	496	276
4	158	213	244	200	179	218	262	469	762	634	451	283
5	164	207	249	191	203	207	242	383	599	723	428	290
6	173	216	210	182	203	207	232	331	718	1340	446	283
7	167	216	207	179	203	203	229	327	1170	1620	464	272
8	164	216	203	185	203	210	210	418	5620	1370	464	269
9	176	219	197	188	210	262	197	652	4000	1120	587	249
10	179	219	200	185	226	236	286	610	1910	854	1790	259
11	176	216	203	185	226	207	1040	469	1640	808	627	272
12	176	223	200	185	216	207	639	442	1640	854	442	316
13	179	222	219	182	216	207	437	395	1580	750	379	297
14	173	219	219	179	219	197	308	324	2150	724	1130	508
15	152	219	223	185	210	191	286	312	2660	724	965	339
16	158	219	213	182	200	191	283	312	3010	718	712	301
17	182	223	200	185	194	191	262	335	3270	652	1640	312
18	182	213	207	176	188	285	210	375	3170	658	1120	312
19	182	207	210	176	194	283	252	383	2930	566	1290	308
20	133	219	207	170	200	239	255	646	2600	530	1690	312
21	130	223	203	173	194	226	255	586	2270	515	566	301
22	1430	223	203	173	197	218	239	331	1640	572	464	294
23	444	213	194	155	194	330	252	613	1500	594	407	269
24	259	200	194	176	188	290	207	375	1560	582	387	255
25	259	210	179	179	179	239	326	379	1700	610	359	249
26	249	216	182	176	191	236	236	446	1440	604	565	239
27	232	223	200	170	248	226	266	669	997	367	563	239
28	219	210	207	170	237	219	246	787	1270	297	355	229
29	213	213	203	182	---	216	203	670	1090	286	312	252
30	216	213	194	179	---	210	269	1020	944	478	286	249
31	213	---	191	176	---	226	---	1340	---	520	266	---
TOTAL	7245	6469	6412	5612	5664	7021	8993	18908	55890	22416	20696	8529
MEAN	234	216	207	181	202	226	300	610	1863	723	668	284
MAX	1430	223	249	200	248	330	1040	2860	5620	1620	1790	508
MIN	130	200	179	155	176	191	197	269	599	286	266	229
AC-FT	14370	12830	12720	11130	11230	13930	17840	37500	110900	44460	41050	16920

CAL YR 1978 TOTAL 103606 MEAN 284 MAX 2030 MIN 51 AC-FT 205500
WTR YR 1979 TOTAL 173855 MEAN 476 MAX 5620 MIN 130 AC-FT 344800

06723400 SOUTH ST. VRAIN CREEK ABOVE LYONS, CO

LOCATION.--Lat 40°12'40", long 105°16'47", in NW¼NW¼SW¼ sec.19, T.3 N., R.70 W., Boulder County, Hydrologic Unit 10190005, on left bank 1.0 mi (1.6 km) above confluence of North St. Vrain Creek and 1.1 mi (1.8 km) southwest of Lyons.

DRAINAGE AREA.--80.9 mi² (209.5 km²).

PERIOD OF RECORD.--October 1976 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,400 ft (1,646 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 932 ft³/s (26.4 m³/s) June 15, 1979, gage height, 2.92 ft (0.890 m); minimum daily, 3.0 ft³/s (0.085 m³/s) Jan. 9, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 932 ft³/s (26.4 m³/s) at 0500 June 15, gage height, 2.92 ft (0.890 m); minimum daily, 5.5 ft³/s (0.16 m³/s) Jan. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	13	9.0	8.0	6.4	8.8	23	67	189	350	66	39
2	13	14	9.0	8.0	6.4	8.3	22	81	168	346	61	37
3	14	13	9.0	8.0	6.4	8.4	24	75	167	288	55	36
4	13	13	9.0	7.0	6.4	9.5	22	77	186	295	53	38
5	13	13	9.0	6.5	6.4	10	23	112	215	274	52	59
6	13	11	8.0	7.5	6.4	8.6	30	149	280	221	52	59
7	13	11	7.0	7.7	6.4	8.9	39	158	526	241	52	58
8	12	13	6.0	7.6	6.6	9.8	43	154	527	200	52	57
9	12	12	8.0	7.8	6.6	9.2	46	142	544	176	64	56
10	11	11	8.5	8.0	6.6	11	46	125	437	159	84	56
11	11	7.6	8.5	7.8	6.8	11	48	118	406	142	72	57
12	10	7.7	8.5	8.1	6.8	11	46	130	430	133	64	58
13	11	11	8.5	8.1	6.9	11	46	135	559	136	66	57
14	11	10	8.5	7.5	7.4	10	53	150	778	140	86	58
15	11	8.2	8.5	7.6	8.4	11	67	155	834	133	84	54
16	11	8.2	8.5	7.4	6.6	11	79	162	708	126	80	51
17	11	8.8	8.5	7.5	6.6	12	88	182	609	119	132	47
18	11	9.4	8.7	7.2	6.6	13	99	191	592	113	121	26
19	12	9.2	8.8	7.0	6.6	13	108	201	505	104	133	23
20	11	8.1	8.5	6.8	6.9	12	102	208	340	96	146	23
21	11	8.9	8.3	7.1	9.9	12	93	184	279	91	121	25
22	28	9.7	8.5	6.4	12	12	89	186	318	91	92	22
23	18	9.1	8.5	6.5	9.0	12	90	198	413	96	77	21
24	19	8.9	8.5	6.5	10	13	95	224	423	102	59	19
25	20	9.0	8.5	6.8	11	15	96	236	427	96	54	19
26	16	9.3	8.5	6.5	8.6	18	86	246	455	86	50	19
27	18	9.4	8.5	5.5	8.6	20	81	261	407	83	49	19
28	16	9.6	8.6	5.8	9.5	25	79	287	402	85	44	18
29	15	8.9	8.5	6.0	---	29	72	322	398	82	41	17
30	15	9.3	8.0	6.0	---	26	69	313	368	74	39	17
31	13	---	8.0	6.2	---	25	---	227	---	70	41	---
TOTAL	427	304.3	260.4	220.4	212.8	414.5	1904	5456	12890	4768	2242	1145
MEAN	13.8	10.1	8.40	7.11	7.60	13.4	63.5	176	430	153	72.3	38.2
MAX	28	14	9.0	8.1	12	29	108	322	834	350	146	59
MIN	10	7.6	6.0	5.5	6.4	8.3	22	67	167	70	39	17
AC-FT	847	604	517	437	422	822	3780	10820	25570	9420	4450	2270

CAL YR 1978 TOTAL 22908.2 MEAN 62.8 MAX 422 MIN 4.0 AC-FT 45440
WTR YR 1979 TOTAL 30224.4 MEAN 82.8 MAX 834 MIN 5.5 AC-FT 59950

06724000 ST. VRAIN CREEK AT LYONS, CO

LOCATION.--Lat 40°13'05", long 105°15'34", in NW¼NW¼ sec.20, T.3 N., R.70 W., Boulder County, Hydrologic Unit 10190005, on left bank 75 ft (23 m) southwest of U.S. Highway 36 (State Highways 7 and 66) at southeast edge of Lyons, 400 ft (120 m) upstream from St. Vrain Supply Canal, and 0.4 mi (0.6 km) downstream from confluence of North and South St. Vrain Creeks.

DRAINAGE AREA.--212 mi² (549 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1887 to September 1891, June 1895 to current year. Monthly discharge only for some periods, published in WSP 1310. Published as "near Lyons" 1901, 1903.

REVISED RECORDS.--WSP 1310: 1898, 1900. WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 5,292 ft (1,613 m), from topographic map. Prior to Apr. 6, 1923, nonrecording gages near present site at different datums. Apr. 6, 1923, to Sept. 30, 1956, water-stage recorder at same site at datum 1.00 ft (0.305 m) higher.

REMARKS.--Records good. Diversions above station for irrigation of about 20,000 acres (80.9 km²). Flow partly regulated by small reservoirs above station.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--88 years (water years 1888-91, 1896-1979), 128 ft³/s (3.625 m³/s), 92,740 acre-ft/yr (114 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,500 ft³/s (297 m³/s) June 22, 1941, gage height, 9.06 ft (2.761 m), present datum, from floodmark, from rating curve extended above 2,100 ft³/s (59 m³/s), on basis of slope-area measurement at gage height 8.90 ft (2.713 m); no flow Jan. 19, 20, 1922, Jan. 12, 13, 1950.

EXTREMES OUTSIDE PERIOD OF RECORD.--Outstanding floods occurred in June 1864 and May 1876. Flood in May or June 1894 reached a stage of 9.13 ft (2.783 m), from information by local resident, discharge, about 9,800 ft³/s (278 m³/s). For discussions of these floods, see WSP 997.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,050 ft³/s (29.7 m³/s) at 0300 June 15, gage height, 5.22 ft (1.591 m); minimum daily, 8.5 ft³/s (0.24 m³/s) Mar. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	26	14	9.5	13	14	40	142	646	612	188	75
2	20	26	11	10	12	14	35	185	626	655	183	72
3	29	26	14	13	12	14	40	134	581	562	190	66
4	31	26	15	13	12	11	37	131	548	575	189	71
5	32	26	16	13	12	13	36	193	561	551	197	101
6	29	26	14	13	13	13	50	217	544	474	180	106
7	27	20	12	13	13	11	61	209	624	527	156	102
8	21	20	9.0	14	13	8.5	71	281	860	481	159	109
9	21	19	11	15	13	13	68	355	876	445	173	132
10	18	18	14	16	12	13	84	329	774	430	221	132
11	18	16	15	17	12	14	105	312	725	401	175	144
12	19	16	14	15	13	12	96	328	732	396	138	139
13	21	18	13	15	14	10	98	315	804	377	143	125
14	19	18	13	16	15	11	110	328	961	391	178	117
15	18	17	13	15	13	13	122	337	1020	387	173	82
16	16	17	12	14	12	15	127	357	975	373	185	73
17	12	19	11	14	12	16	146	387	906	363	247	69
18	11	17	10	14	12	20	168	448	891	347	266	62
19	11	17	13	13	12	18	219	510	847	314	293	62
20	10	15	13	14	12	16	239	539	746	284	306	59
21	11	17	11	13	11	18	253	504	643	269	277	62
22	37	18	13	14	13	22	235	510	554	266	256	57
23	26	14	14	15	13	20	230	503	941	280	219	50
24	26	15	14	13	12	21	221	532	544	289	178	45
25	27	15	13	13	10	22	192	560	590	287	157	48
26	26	14	13	12	13	25	128	539	681	260	140	48
27	28	13	13	12	13	27	98	563	651	252	123	48
28	26	13	15	11	13	35	94	584	646	258	94	46
29	26	13	13	11	---	41	77	678	637	245	97	45
30	26	12	11	10	---	35	96	769	603	218	87	42
31	26	---	10	11	---	39	---	689	---	207	85	---
TOTAL	688	547	397.0	411.5	350	574.5	3576	12468	21317	11776	5651	2389
MEAN	22.2	18.2	12.8	13.3	12.5	18.5	119	402	711	380	182	79.6
MAX	37	26	16	17	15	41	253	769	1020	655	306	144
MIN	10	12	9.0	9.5	10	8.5	35	131	541	207	85	42
AC-FT	1360	1080	787	816	694	1140	7090	24730	42280	23360	11210	4740

CAL YR 1978 TOTAL 51218.6 MEAN 140 MAX 1010 MIN 5.0 AC-FT 101600
WTR YR 1979 TOTAL 60145.0 MEAN 165 MAX 1020 MIN 8.5 AC-FT 119300

06724000 ST. VRAIN CREEK AT LYONS, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1977 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	TEMPERATURE (DEG C)	DATE	TIME	TEMPERATURE (DEG C)
OCT			APR		
03...	1025	10.0	05...	1435	13.0
12...	1220	12.5	16...	1420	12.0
17...	1035	10.0	17...	1305	11.0
20...	1145	10.5	MAY		
NOV			01...	1410	9.0
09...	1050	9.0	09...	1325	4.5
22...	1140	3.5	15...	1100	8.0
27...	1400	2.0	JUN		
DEC			06...	1145	11.0
11...	1110	2.0	07...	1115	8.0
19...	1440	1.0	26...	1220	12.0
JAN			JUL		
03...	1130	2.0	10...	0900	12.0
17...	1100	.5	11...	1320	15.5
24...	0900	.0	24...	1045	14.0
FEB			AUG		
05...	1120	.5	01...	1030	13.0
19...	1700	1.5	22...	0800	12.0
21...	1230	1.5	25...	1035	14.0
MAR			29...	1240	17.0
03...	1120	3.0	SEP		
16...	1520	10.0	18...	1130	14.5
21...	1425	4.5			
27...	1145	9.0			

06724000 ST. VRAIN CREEK AT LYONS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	NITRO-GEN, DIS-SOLVED (MG/L AS N)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT 12...	1220	24	60	7.8	12.5	8.5	--	21	1	5.9	1.4
NOV 27...	1400	16	72	7.8	2.0	11.5	--	24	1	6.7	1.7
DEC 19...	1440	18	65	7.7	1.0	10.6	--	19	1	5.4	1.3
JAN 24...	0900	12	75	7.5	.0	11.7	--	27	7	7.6	1.9
FEB 21...	1230	16	80	7.7	1.5	11.0	1.1	29	5	8.1	2.1
MAR 27...	1145	26	90	7.6	9.0	9.6	.63	31	12	9.6	1.8
APR 17...	1305	139	70	7.7	11.0	9.0	.62	23	10	6.5	1.6
MAY 09...	1325	388	65	7.6	4.5	10.6	.61	22	12	6.1	1.6
JUN 06...	1145	627	38	7.1	11.0	9.0	.25	15	7	4.7	.8
JUL 11...	1320	400	28	7.3	15.5	8.2	.13	9	0	2.8	.6
AUG 22...	0800	238	38	7.2	12.0	8.4	.50	13	5	3.9	.9
SEP 18...	1130	67	47	7.4	14.5	8.6	.47	0	0	--	.9

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT 12...	2.7	.3	--	24	0	20	5.8	1.3	.1	6.0	36
NOV 27...	3.6	.3	.5	28	0	23	7.6	1.9	.2	6.9	44
DEC 19...	3.2	.3	.5	22	0	18	7.2	1.5	.2	5.9	38
JAN 24...	4.3	.4	.6	--	--	20	7.8	2.3	.2	7.9	47
FEB 21...	4.9	.4	.5	--	--	24	7.7	2.4	.2	8.3	53
MAR 27...	4.4	.3	.5	--	--	19	9.9	3.5	.3	7.3	51
APR 17...	3.6	.3	.5	--	--	13	10	2.0	.3	10	43
MAY 09...	3.4	.3	.6	--	--	10	7.6	1.9	.3	9.9	39
JUN 06...	2.2	.2	.6	--	--	8	6.7	1.0	.2	6.9	28
JUL 11...	1.6	.2	.4	--	--	9	6.9	.6	.2	6.5	25
AUG 22...	1.9	.2	.3	--	--	8	8.7	.9	.2	5.8	28
SEP 18...	2.5	--	.4	--	--	14	6.7	.8	.2	6.1	27

06724000 ST. VRAIN CREEK AT LYONS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
OCT 12...	.05	2.33	.16	.01	.58	.59	.060	.060	.03	80	4
NOV 27...	.06	2.16	.30	.00	.03	.03	.070	.070	.05	60	4
DEC 19...	.05	1.87	.33	.01	.08	.09	.070	.070	.06	70	4
JAN 24...	.06	1.52	.52	.00	.54	.54	.150	.150	.10	60	4
FEB 21...	.07	2.29	1.0	.02	.06	.08	.080	.080	.05	20	10
MAR 27...	.07	3.58	.47	.01	.15	.16	.050	.050	.05	50	10
APR 17...	.06	16.1	.21	.00	.41	.41	.020	.010	.00	80	4
MAY 09...	.05	40.9	.29	.00	.32	.32	.020	.010	--	90	5
JUN 06...	.04	47.4	.11	.00	.14	.14	.020	.010	--	70	0
JUL 11...	.03	27.0	.07	.00	.06	.06	--	.020	--	60	4
AUG 22...	.04	18.0	.12	.00	.38	.38	.030	.000	--	70	4
SEP 18...	.04	4.88	.13	.00	.34	.34	.010	.020	.04	80	0

DATE	TIME	PCB, TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)	DI- ELDRIN TOTAL (UG/L)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)
MAY 09...	1325	.0	.00	.0	.00	.00	.00	.00	.00	.00	.00	.00

DATE	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY 09...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
OCT 12...	1220	24	2	.13	APR 17...	1305	139	7	2.6
NOV 27...	1400	18	1	.05	MAY 09...	1325	388	11	12
DEC 19...	1440	18	3	.15	JUN 06...	1145	627	15	25
JAN 24...	0900	12	3	.10	JUL 11...	1320	400	8	8.6
FEB 21...	1230	16	3	.13	AUG 22...	0800	238	7	4.5
MAR 27...	1145	26	12	.84	SEP 18...	1130	67	4	.72

06724500 LEFT HAND CREEK NEAR BOULDER, CO

LOCATION.--Lat 40°07'32", long 105°18'12", in SE¼NE¼ sec.23, T.2 N., R.71 W., Boulder County, Hydrologic Unit 10190005, on right bank 700 ft (213 m) upstream from Lake Ditch diversion, 700 ft (213 m) downstream from Spruce Gulch, and 7.5 mi (12.1 km) north of Boulder.

DRAINAGE AREA.--52.0 mi^2 (135 km^2), approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1949 to December 1953, October 1955 to September 1957, October 1976 to current year. Records for May 1929 to September 1931 and April 1947 to September 1949 not equivalent. Records do not include flow of small power ditch, capacity 7.5 ft^3/s (0.21 m^3/s), which is diverted above station (discharge measurements of the ditch are published for October 1947 to September 1949).

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 5,710 ft (1,740 m), from topographic map. Prior to Mar. 12, 1957, at site 0.9 mi (1.4 km) upstream at different datum.

REMARKS.--Records good except those for winter period, which are fair. A large part of flow is water diverted from South St. Vrain Creek for irrigation of lands along Left Hand Creek below station.

AVERAGE DISCHARGE.--9 years (water years 1950-53, 1956, 1957, 1977-79), 38.3 ft^3/s (1.085 m^3/s), 27,750 acre-ft/yr (34.2 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 785 ft^3/s (22.2 m^3/s) Aug. 3, 1951, gage height, 5.39 ft (1.643 m), site and datum then in use; minimum daily, 1.0 ft^3/s (0.028 m^3/s) Jan. 4, 1950.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 4, 1949, reached a discharge of 1,140 ft^3/s (32.3 m^3/s) at site 0.5 mi (0.8 km) upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 187 ft^3/s (5.30 m^3/s) at 2030 June 9, gage height, 2.61 ft (0.796 m); minimum daily, 3.8 ft^3/s (0.108 m^3/s) Jan. 18, 21-26, 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	7.3	5.8	4.0	4.0	4.9	13	42	114	151	46	27
2	11	7.3	5.8	4.0	4.0	4.9	13	48	112	151	42	26
3	9.9	7.3	5.8	4.0	4.0	4.4	14	45	114	144	40	25
4	9.9	7.0	5.8	4.0	4.0	4.5	12	50	117	167	38	24
5	9.6	7.0	5.8	4.0	4.0	4.4	14	65	119	157	36	32
6	8.8	6.0	5.8	4.0	4.0	4.9	19	86	118	132	36	46
7	8.4	6.0	5.8	4.0	4.0	5.5	25	100	125	139	36	48
8	8.1	6.3	5.8	4.0	4.0	5.5	29	101	147	122	36	46
9	7.7	6.0	5.8	4.0	5.2	5.2	30	92	179	112	40	44
10	7.3	5.8	5.8	4.0	4.6	5.5	30	83	183	106	48	43
11	7.3	4.9	6.3	4.0	4.4	5.8	30	80	181	96	42	41
12	7.0	4.9	5.5	4.0	4.6	6.0	26	90	176	93	38	41
13	7.0	5.5	5.5	4.0	4.9	6.0	26	100	163	93	38	39
14	7.0	5.2	5.5	4.0	5.5	5.5	28	110	144	99	45	39
15	7.0	5.5	5.5	4.0	5.2	6.0	35	116	119	96	45	35
16	7.0	6.3	5.4	4.0	4.9	6.0	44	120	112	93	48	32
17	7.0	6.0	5.4	4.0	4.8	6.3	50	135	139	92	56	26
18	7.3	6.0	5.5	3.8	4.7	7.0	57	137	133	89	52	20
19	8.4	7.0	5.5	4.1	4.6	7.0	62	133	127	84	60	15
20	8.1	7.0	5.0	4.1	4.4	7.0	62	127	116	76	66	12
21	7.0	6.4	5.0	3.8	4.3	6.6	59	116	111	70	46	15
22	8.4	6.0	4.9	3.8	4.2	6.3	57	114	107	69	34	12
23	8.1	6.0	4.9	3.8	4.1	6.6	58	114	106	69	28	9.9
24	8.4	6.0	4.9	3.8	4.1	7.0	60	113	103	69	36	8.8
25	8.4	6.0	4.9	3.8	4.1	8.4	61	111	100	65	35	8.8
26	8.1	6.0	4.6	3.8	4.1	10	55	111	103	60	35	16
27	8.1	6.0	4.5	4.1	4.1	12	52	108	126	58	35	20
28	8.1	6.0	4.4	3.8	4.1	14	50	106	125	60	32	21
29	7.7	6.0	4.4	4.4	---	16	46	109	124	56	30	21
30	7.7	6.6	4.3	4.0	---	15	44	118	121	52	30	20
31	7.3	---	4.0	4.0	---	15	---	116	---	48	29	---
TOTAL	252.1	185.3	163.9	123.1	122.9	229.2	1161	3096	3864	2968	1258	813.5
MEAN	8.13	6.18	5.29	3.97	4.39	7.39	38.7	99.9	129	95.7	40.6	27.1
MAX	11	7.3	6.3	4.4	5.5	16	62	137	183	167	66	48
MIN	7.0	4.9	4.0	3.8	4.0	4.4	12	42	100	48	28	8.8
AC-FT	500	368	325	244	244	455	2300	6140	7660	5890	2500	1610

CAL YR 1978 TOTAL 14552.7 MEAN 39.9 MAX 210 MIN 3.6 AC-FT 28870
WTR YR 1979 TOTAL 14237.0 MEAN 39.0 MAX 183 MIN 3.8 AC-FT 28240

06724500 LEFT HAND CREEK NEAR BOULDER, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1977 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	NITRO-GEN, DIS-SOLVED (MG/L AS N)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT											
12...	1010	7.0	100	8.0	7.0	10.0	--	33	18	9.3	2.4
NOV											
29...	1400	5.8	170	7.4	.0	11.5	--	57	42	16	4.1
DEC											
20...	1610	4.2	180	7.3	.0	12.0	--	63	50	18	4.3
JAN											
24...	1415	4.1	180	7.2	.0	11.2	--	61	46	17	4.5
FEB											
20...	1315	4.6	220	7.4	1.0	11.6	.25	74	64	21	5.2
MAR											
27...	0945	11	250	7.1	1.5	11.0	.38	93	83	27	6.2
APR											
17...	1630	47	170	7.6	10.0	9.0	.54	57	44	15	4.7
MAY											
09...	1145	92	130	7.7	2.5	11.2	.70	47	30	12	4.1
JUN											
08...	1150	142	90	7.5	6.0	--	.23	34	19	9.1	2.7
JUL											
11...	1200	95	44	7.5	15.5	8.2	.15	16	7	4.3	1.3
AUG											
22...	1145	26	105	7.5	13.5	8.2	.46	36	24	10	2.6
SEP											
18...	0950	22	70	7.6	9.0	9.6	.35	0	0	--	--

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT											
12...	5.0	.4	.9	19	0	16	31	.7	1.2	7.8	68
NOV											
29...	8.3	.5	1.0	18	0	15	55	1.2	2.2	10	108
DEC											
20...	8.9	.5	1.1	16	0	13	58	1.4	2.5	11	116
JAN											
24...	8.6	.5	1.1	--	--	15	59	2.4	2.3	11	116
FEB											
20...	10	.5	1.1	--	--	10	70	1.3	2.8	11	129
MAR											
27...	12	.5	1.4	--	--	10	95	5.4	3.9	12	171
APR											
17...	5.8	.3	1.3	--	--	13	45	2.0	1.7	15	100
MAY											
09...	4.9	.3	1.3	--	--	17	32	1.8	1.0	15	86
JUN											
08...	3.3	.2	1.0	--	--	15	20	1.1	.7	8.7	56
JUL											
11...	1.5	.2	.5	--	--	9	11	.4	.4	5.9	31
AUG											
22...	4.0	.3	.7	--	--	12	34	.9	1.3	8.5	70
SEP											
18...	2.8	--	.5	--	--	11	22	.5	.8	5.9	39

06724500 LEFT HAND CREEK NEAR BOULDER, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT 12...	.09	1.29	.04	.01	.15	.16	.000	.000	.01	40	50
NOV 29...	.15	1.69	.19	.02	.08	.10	.000	.010	.01	30	110
DEC 20...	.16	1.32	.20	.00	.08	.08	.000	.000	.00	30	100
JAN 24...	.16	1.30	.20	.00	.13	.13	.010	.000	.00	10	100
FEB 20...	.18	1.62	.21	.02	.02	.04	.010	.020	.01	20	10
MAR 27...	.23	5.26	.33	.01	.04	.05	.010	.000	.00	0	200
APR 17...	.14	12.8	.38	.01	.15	.16	.010	.000	.00	30	140
MAY 09...	.11	20.9	.29	.00	.41	.41	.030	.010	--	90	70
JUN 08...	.08	21.5	.12	.00	.11	.11	.040	.010	--	50	50
JUL 11...	.04	7.95	.04	.00	.11	.11	--	.000	--	40	10
AUG 22...	.10	4.95	.08	.00	.38	.38	.010	.000	--	20	70
SEP 18...	.05	2.32	.05	.00	.30	.30	.000	.010	.04	30	40

DATE	TIME	PCB, TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)
MAY 09...	1145	.0	.00	.0	.00	.00	.00	.00	.00	.00	.00	.00

DATE	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY 09...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00

06725000 LEFT HAND CREEK AT MOUTH, AT LONGMONT, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 40°08'49", long 105°06'06", in SW¼SE¼ sec.10, T.2 N., R.69 W., Boulder County, Hydrologic Unit 10190005, on left bank 40 ft (12 m) downstream from bridge on U.S. Highways 87 and 287, 1.0 mi (1.6 km) upstream from mouth, 1.3 mi (2.1 km) south of City Hall in Longmont.

PERIOD OF RECORD.--October 1976 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	NITRO-GEN, DIS-SOLVED (MG/L AS N)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT 11...	1400	E6.0	1400	8.5	16.5	11.0	--	570	320	110	71
NOV 27...	1300	E5.0	1620	8.4	7.0	12.4	--	670	410	130	85
DEC 19...	1045	E4.5	1600	8.3	5.0	10.8	--	690	380	140	83
JAN 23...	1200	E3.0	1500	8.1	1.0	12.0	--	650	330	130	79
FEB 21...	1030	E3.0	1550	8.2	2.0	11.4	3.3	690	390	140	82
MAR 28...	1630	E10	780	7.6	14.0	7.8	1.0	300	170	60	31
APR 17...	1130	E6.0	1400	8.3	17.0	8.9	2.2	670	380	130	85
MAY 09...	0805	E10	1300	7.9	5.0	10.2	3.2	550	330	110	66
JUN 08...	0800	E50	500	7.7	9.0	--	.60	180	120	36	21
JUL 10...	1430	E25	1080	8.0	25.5	6.2	1.5	410	240	76	54
AUG 21...	1525	E35	690	8.2	21.5	7.0	1.5	260	130	50	29
SEP 17...	1450	E10	1250	8.4	20.0	8.0	2.2	520	290	110	59

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT 11...	100	1.8	2.4	300	0	250	500	8.0	1.4	11	961
NOV 27...	130	2.2	2.5	320	0	260	630	13	1.6	11	1170
DEC 19...	110	1.8	3.1	380	0	310	600	9.6	1.6	12	1160
JAN 23...	110	1.9	2.6	--	--	320	540	9.9	1.6	13	1090
FEB 21...	120	2.0	2.3	--	--	300	590	10	1.6	12	1150
MAR 28...	40	1.0	2.4	--	--	130	220	4.9	1.9	8.5	450
APR 17...	120	2.0	2.6	--	--	290	580	11	1.7	11	1120
MAY 09...	110	2.0	13	--	--	220	540	15	1.2	12	1010
JUN 08...	28	.9	4.0	--	--	60	170	4.1	.7	7.9	309
JUL 10...	70	1.5	3.7	--	--	170	390	4.8	1.0	10	717
AUG 21...	40	1.1	2.5	--	--	130	240	4.6	1.0	8.9	465
SEP 17...	90	1.7	3.3	--	--	230	490	7.7	1.2	8.9	916

E ESTIMATED.

06725000 LEFT HAND CREEK AT MOUTH, AT LONGMONT, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT 11...	1.31	15.6	2.0	.01	.32	.33	.010	.010	.00	40	20
NOV 27...	1.59	15.8	2.5	.00	.33	.33	.010	.020	.00	30	30
DEC 19...	1.58	14.1	2.6	.01	.38	.39	.010	.020	.00	40	60
JAN 23...	1.48	8.83	2.7	.04	.47	.51	.080	.030	.01	40	70
FEB 21...	1.56	9.32	2.6	.06	.60	.66	.020	.030	.02	30	80
MAR 28...	.62	12.4	.72	.06	.26	.32	.030	.020	.00	70	60
APR 17...	1.52	18.1	1.9	.03	.27	.30	.020	.010	.01	20	70
MAY 09...	1.37	27.3	1.8	.40	1.0	1.4	.280	.170	--	130	110
JUN 08...	.42	41.7	.26	.00	.34	.34	.010	.050	--	70	40
JUL 10...	.98	48.4	1.1	.06	.30	.36	--	.070	--	30	20
AUG 21...	.63	43.9	.73	.00	.72	.72	.110	.010	--	30	10
SEP 17...	E1.25	E24.7	1.6	.01	.55	.56	.020	.020	--	30	30

DATE	TIME	PCB, TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)
MAY 09...	0805	.0	.00	.0	.00	.00	.00	.00	.00	.00	.00	.00

DATE	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY 09...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)
OCT 11...	1400	E6.0	42	.68	APR 17...	1130	E6.0	23	.37
NOV 27...	1300	E5.0	16	.22	MAY 09...	0805	E10	158	4.3
DEC 19...	1045	E4.5	25	.30	JUN 08...	0800	E50	579	78
JAN 23...	1200	E3.0	121	.98	JUL 10...	1430	E25	326	22
FEB 21...	1030	E3.0	20	.16	AUG 21...	1525	E35	112	11
MAR 28...	1630	E10	227	6.1	SEP 17...	1450	E10	56	1.5

E ESTIMATED.

06725450 ST. VRAIN CREEK BELOW LONGMONT, CO

LOCATION.--Lat 40°09'29", long 105°00'53", in NW¼NW¼ sec.9, T.2 N, R.68 W., Weld County, Hydrologic Unit 10190005, on left bank 1,600 ft (488 m) upstream from mouth of Boulder Creek, 1.8 mi (2.9 km) downstream from Spring Gulch, and 4.7 mi (7.6 km) southeast of Longmont.

DRAINAGE AREA.--424 mi² (1,098 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1976 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,850 ft (1,478 m), from topographic map.

REMARKS.--Records fair. Natural flow of stream affected by storage reservoirs, diversions for irrigation, and return flow from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,370 ft³/s (67.1 m³/s) May 17, 1978, gage height, 5.49 ft (1.673 m); minimum daily, 22 ft³/s (0.62 m³/s) Apr. 25, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,310 ft³/s (37.1 m³/s) at 1000 June 9, gage height, 4.49 ft (1.369 m); minimum daily, 25 ft³/s (0.71 m³/s) Dec. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	39	41	30	45	38	58	63	736	195	97	132
2	41	40	36	30	45	38	53	182	688	209	89	135
3	42	37	35	30	45	39	56	190	646	169	89	135
4	41	37	35	30	45	38	54	182	550	111	89	135
5	38	34	32	30	45	38	48	198	520	144	92	154
6	46	33	30	30	45	38	39	198	425	117	89	150
7	55	33	25	30	45	36	39	185	450	140	73	154
8	57	37	28	30	45	39	43	296	984	125	76	150
9	50	32	30	30	45	42	46	415	1230	105	85	126
10	53	34	30	30	45	36	59	364	1060	100	185	120
11	54	31	30	30	45	37	111	324	944	102	164	92
12	54	29	30	30	45	36	81	356	944	102	135	97
13	58	30	30	30	45	36	57	395	968	104	120	94
14	71	32	30	30	45	34	93	400	1030	100	135	110
15	76	32	30	35	45	34	98	425	1160	106	147	117
16	69	28	30	35	45	34	105	450	1090	132	178	110
17	79	34	30	42	45	33	128	500	1060	142	244	100
18	66	33	30	39	45	46	126	530	1060	141	216	97
19	75	34	30	41	45	44	151	565	968	132	424	94
20	76	34	30	42	43	46	121	592	772	123	538	78
21	67	38	30	42	40	46	86	555	610	123	252	78
22	252	34	30	47	40	61	97	490	410	135	226	78
23	125	30	30	49	40	50	93	485	332	123	185	73
24	97	33	30	46	39	44	88	510	328	99	160	69
25	72	35	30	39	39	42	132	570	320	97	160	67
26	64	35	30	38	41	45	110	604	419	94	141	62
27	57	38	30	40	44	49	99	580	306	102	144	58
28	48	42	29	43	40	50	80	530	247	117	144	60
29	47	40	34	50	---	61	71	628	238	112	138	67
30	43	38	30	45	---	53	63	784	200	110	135	56
31	46	---	30	45	---	53	---	820	---	112	150	---
TOTAL	2069	1036	955	1138	1221	1316	2485	13366	20695	3823	5100	3048
MEAN	66.7	34.5	30.8	36.7	43.6	42.5	82.8	431	690	123	165	102
MAX	252	42	41	50	45	61	151	820	1230	209	538	154
MIN	38	28	25	30	39	33	39	63	200	94	73	56
AC-FT	4100	2050	1890	2260	2420	2610	4930	26510	41050	7580	10120	6050

CAL YR 1978 TOTAL 40542 MEAN 111 MAX 983 MIN 22 AC-FT 80420
WTR YR 1979 TOTAL 56252 MEAN 154 MAX 1230 MIN 25 AC-FT 111600

06725450 ST. VRAIN CREEK BELOW LONGMONT, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1976 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	NITRO-GEN, DIS-SOLVED (MG/L AS N)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT 11...	1300	48	1350	8.6	16.0	15.2	--	560	320	110	69
NOV 27...	1115	37	1600	8.1	5.5	12.0	--	600	370	110	80
DEC 19...	0945	29	1600	8.2	4.0	10.2	--	650	360	120	84
JAN 23...	1350	36	1400	8.2	2.0	11.1	--	540	340	99	70
FEB 20...	1600	42	1350	8.5	8.0	12.2	6.3	550	360	100	72
MAR 26...	1345	43	1650	8.2	7.0	10.4	5.4	710	470	130	93
APR 24...	1200	80	800	8.1	15.0	9.2	3.1	290	160	57	35
MAY 08...	1115	211	600	7.7	7.0	9.6	2.2	200	130	40	25
JUN 05...	1030	568	250	7.5	12.0	9.2	.78	85	48	19	9.1
JUL 10...	1205	138	1200	7.8	21.0	6.2	3.8	450	270	79	62
AUG 21...	1415	264	1000	8.1	20.0	6.8	2.0	390	230	78	48
SEP 17...	1330	109	1250	8.2	19.0	8.4	4.2	490	290	100	58

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT 11...	98	1.8	4.1	270	9	240	490	14	1.2	7.9	952
NOV 27...	130	2.3	5.4	290	0	240	590	19	1.2	10	1100
DEC 19...	120	2.1	6.7	350	0	290	620	19	1.3	11	1170
JAN 23...	110	2.1	5.7	--	--	200	530	19	1.1	9.3	977
FEB 20...	99	1.8	5.2	--	--	190	510	18	1.0	8.3	943
MAR 26...	130	2.1	5.4	--	--	240	710	21	1.0	7.2	1260
APR 24...	56	1.4	3.1	--	--	130	250	13	.7	8.6	510
MAY 08...	40	1.2	2.4	--	--	77	190	7.4	.5	9.9	366
JUN 05...	13	.6	1.3	--	--	37	62	2.9	.4	7.4	139
JUL 10...	85	1.7	4.5	--	--	180	450	10	1.1	9.5	821
AUG 21...	66	1.5	3.6	--	--	160	370	9.3	.8	9.3	689
SEP 17...	92	1.8	4.9	--	--	200	460	9.9	1.0	8.3	865

06725450 ST. VRAIN CREEK BELOW LONGMONT, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT											
11...	1.29	123	3.3	.02	1.1	1.1	.260	.250	.18	40	30
NOV											
27...	1.50	110	2.9	3.6	1.2	4.8	.790	.710	.66	40	70
DEC											
19...	1.59	91.9	3.2	3.2	1.3	4.5	.420	.160	.12	50	100
JAN											
23...	1.33	97.3	2.8	4.7	.20	4.9	.900	.260	.15	40	70
FEB											
20...	1.28	107	2.2	3.4	.70	4.1	.540	.370	.32	40	80
MAR											
26...	1.71	147	2.0	2.8	.60	3.4	.380	.210	--	20	90
APR											
24...	.69	110	1.3	1.5	.30	1.8	.340	.190	.20	20	40
MAY											
08...	.50	209	1.1	.62	.48	1.1	.230	.110	--	60	30
JUN											
05...	.19	213	.30	.21	.27	.48	.110	.060	--	60	10
JUL											
10...	1.12	306	2.7	.53	.57	1.1	--	.420	--	20	60
AUG											
21...	.94	491	1.8	.37	.00	.20	.030	.000	--	20	30
SEP											
17...	1.18	255	2.4	1.3	.50	1.8	.500	.550	.47	40	40

DATE	TIME	PCB, TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)
MAY												
08...	1115	.0	.00	.00	.00	.00	.06	.00	.00	.00	.00	.00

DATE	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY											
08...	.00	.00	.07	.00	.00	.00	0	.00	.00	.00	.00

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)
OCT				
11...	1300	48	6	.78
NOV				
27...	1115	37	10	1.0
DEC				
19...	0945	29	20	1.6
JAN				
23...	1350	36	41	4.1
MAR				
26...	1345	43	55	6.4
APR				
24...	1200	80	55	12
MAY				
08...	1115	211	84	48
JUN				
05...	1030	568	124	190
JUL				
10...	1205	138	258	96
AUG				
21...	1415	264	199	142
SEP				
17...	1330	109	79	23

06725500 MIDDLE BOULDER CREEK AT NEDERLAND, CO

LOCATION.--Lat 39°57'42", long 105°30'14", in NE¼SE¼ sec.13, T.1 S., R.73 W., Boulder County, Hydrologic Unit 10190005, on left bank at Nederland just downstream from North Beaver Creek and 1,000 ft (300 m) upstream from Barker Reservoir.

DRAINAGE AREA.--36.2 mi² (93.8 km²).

PERIOD OF RECORD.--June 1907 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1730: Drainage area.

GAGE.--Water-stage recorder and compound sharp-crested weir. Datum of gage is 8,186.0 ft (2,495.09 m) Public Service Co. Datum. Prior to Mar. 18, 1909, at datum 4.0 ft (1.22 m) lower. Mar. 18, 1909, to Apr. 23, 1952, at datum 2.5 ft (0.76 m) lower than present datum.

REMARKS.--Records good. No diversion above station. Flow regulated at times by Jasper Lake, capacity, 326 acre-ft (402,000 m³). North Beaver Creek entered Middle Boulder Creek downstream from station June 1 to Dec. 31, 1907, March 1911 to Dec. 31, 1916. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--72 years, 54.1 ft³/s (1.532 m³/s), 39,200 acre-ft/yr (48.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 811 ft³/s (23.0 m³/s) June 2, 1914, gage height, 5.37 ft (1.637 m), datum then in use, by computation of peak flow over compound weir; minimum daily, 0.8 ft³/s (0.023 m³/s) Jan. 14, 1908.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 393 ft³/s (11.1 m³/s) at 2200 June 13, gage height, 2.81 ft (0.856 m); only peak above base of 280 ft³/s (7.9 m³/s); maximum gage height, 3.28 ft (1.000 m) Feb. 5 (backwater from ice); minimum daily discharge, 4.0 ft³/s (0.11 m³/s) Dec. 31, Jan. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	8.9	7.1	4.0	6.1	5.1	5.5	30	174	312	80	41
2	10	8.9	6.7	4.5	6.1	5.1	6.1	34	158	297	75	38
3	9.5	8.9	6.0	5.0	6.3	5.1	5.9	28	149	272	68	36
4	8.9	8.3	7.9	5.5	6.0	5.1	5.3	29	190	294	65	29
5	8.9	8.7	7.9	6.1	5.5	5.1	5.9	35	237	254	62	28
6	8.7	6.7	8.5	6.5	5.5	4.9	7.1	44	282	239	61	28
7	8.9	6.9	6.5	6.0	5.7	5.3	8.5	48	331	237	61	27
8	8.7	8.1	5.0	6.5	5.7	5.1	8.9	41	256	210	61	26
9	8.5	7.5	6.0	7.1	5.7	5.1	8.9	35	201	192	61	26
10	8.5	6.7	6.5	6.9	5.9	4.9	8.5	33	185	176	82	26
11	8.1	4.7	6.7	6.9	5.9	5.3	7.7	31	199	165	66	26
12	8.1	7.7	6.5	7.1	5.9	5.5	7.1	29	242	165	57	26
13	7.1	6.9	6.7	6.5	6.1	5.3	7.3	30	310	167	65	25
14	6.9	6.7	6.5	7.0	6.5	5.5	8.7	36	346	169	93	24
15	7.3	6.5	6.5	6.9	6.3	5.7	12	46	344	174	77	22
16	7.1	5.9	6.5	6.9	6.1	6.1	18	64	315	167	74	20
17	7.5	6.1	6.0	7.1	6.3	5.7	22	104	328	147	88	19
18	7.5	5.9	5.9	7.3	6.1	5.5	28	126	333	141	72	18
19	8.5	6.5	6.1	7.3	5.9	5.7	31	143	279	126	86	19
20	8.1	6.5	5.9	7.3	5.9	5.1	31	143	222	118	72	20
21	8.1	6.3	5.7	7.0	5.5	5.1	31	124	232	116	62	26
22	12	5.7	5.9	6.9	5.5	5.1	31	149	264	122	54	21
23	12	5.5	6.5	6.7	5.3	5.1	31	178	282	124	50	18
24	13	6.3	6.7	6.7	5.5	5.1	35	208	292	124	50	17
25	12	6.3	6.5	6.9	5.1	5.3	34	222	297	114	61	17
26	11	6.5	6.3	6.7	5.1	5.3	28	237	294	110	54	17
27	12	5.9	6.1	6.5	5.1	5.5	30	272	320	106	51	17
28	10	6.9	6.1	6.5	5.3	6.5	31	299	325	110	48	16
29	9.8	7.1	6.1	6.1	---	6.5	28	320	312	99	45	15
30	9.1	6.9	5.0	5.9	---	6.1	29	284	307	92	44	14
31	9.1	---	4.0	5.9	---	5.5	---	213	---	85	42	---
TOTAL	284.9	206.4	196.3	200.2	161.9	167.3	551.4	3615	8006	5224	1987	702
MEAN	9.19	6.88	6.33	6.46	5.78	5.40	18.4	117	267	169	64.1	23.4
MAX	13	8.9	8.5	7.3	6.5	6.5	35	320	346	312	93	41
MIN	6.9	4.7	4.0	4.0	5.1	4.9	5.3	28	149	85	42	14
AC-FT	565	409	389	397	321	332	1090	7170	15880	10360	3940	1390

CAL YR 1978 TOTAL 22960.7 MEAN 62.9 MAX 417 MIN 4.0 AC-FT 45540
WTR YR 1979 TOTAL 21302.4 MEAN 58.4 MAX 346 MIN 4.0 AC-FT 42250

06727000 BOULDER CREEK NEAR ORODELL, CO

LOCATION.--Lat 40°00'23", long 105°19'49", in NE¼SW¼ sec.34, T.1 N., R.71 W., Boulder County, Hydrologic Unit 10190005, on left bank along State Highway 119, 0.7 mi (1.1 km) southwest of old Orodell, 1.1 mi (1.8 km) upstream from Fourmile Creek, and 2.9 mi (4.7 km) southwest of courthouse in Boulder.

DRAINAGE AREA.--102 mi² (264 km²).

PERIOD OF RECORD.--August to October 1887, April to October 1888, October 1906 to November 1914, March 1916 to current year. Monthly discnarge only for some periods, published in WSP 1310. Figures of daily discharge for Feb. 3-10, 17-25, 1912, published in WSP 326, have been found to be unreliable and should not be used. Published as North Boulder Creek, Colorado 1887-88 and as "at Orodell" March 1907 to December 1916.

REVISED RECORDS.--WSP 1310: 1941(M). WSP 1560: 1914(M). WSP 1730: Drainage area. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Altitude of gage is 5,826 ft (1,775.8 m), from topographic map. Prior to Sept. 1, 1907, nonrecording gage, and Sept. 1, 1907, to May 11, 1917, water-stage recorder, at sites 1.1 mi (1.8 km) downstream, just upstream from Fourmile Creek, at different datums.

REMARKS.--Records good. Flow regulated by Barker Reservoir, cpapcity, 11,500 acre-ft (14.2 hm³). Low flow during nonirrigation season regulated by Orodell powerplant 1,500 ft (460 m) upstream from station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--71 years (water years 1907-14, 1917-79), 88.5 ft³/s (2.506 m³/s), 64,120 acre-ft/yr (79.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,500 ft³/s (70.8 m³/s) June 6, 1921, gage height, 4.31 ft (1.314 m), from rating curve extended above 1,200 ft³/s (34.0 m³/s); minimum daily, 1 ft³/s (0.03 m³/s) Jan. 29, Feb. 1-3, 16-24, 1933.

EXTREMES OUTSIDE PERIOD OF RECORD.--Outstanding floods are known to have occurred in June 1864, May 1876, June 1894, and June 1914, stages and discharges unknown.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 582 ft³/s (16.5 m³/s) at 2045 July 1, gage height, 3.52 ft (1.073 m); minimum daily, 1.8 ft³/s (0.051 m³/s) Oct. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	17	52	41	37	20	11	54	157	447	112	36
2	14	14	44	49	29	6.3	25	33	146	463	88	31
3	12	15	46	50	29	6.3	10	59	152	411	75	30
4	5.6	14	44	43	29	6.6	10	62	143	458	59	29
5	10	14	47	49	30	6.6	19	84	135	420	60	22
6	12	47	51	44	30	5.7	15	98	139	365	59	20
7	5.4	52	44	50	31	6.8	32	114	164	385	54	19
8	5.3	53	48	43	26	16	35	128	198	331	75	20
9	5.4	46	48	42	22	6.9	32	111	220	298	103	21
10	6.5	45	49	51	24	19	31	95	223	269	134	21
11	5.9	46	49	45	26	7.2	29	98	207	237	141	31
12	5.3	45	55	45	24	8.1	26	101	200	225	127	40
13	5.8	38	56	37	40	16	19	110	189	224	122	39
14	1.8	49	57	45	33	10	21	130	197	235	153	39
15	10	46	49	46	31	21	56	136	276	230	165	35
16	6.9	51	56	44	31	8.9	58	105	264	260	156	32
17	6.3	47	57	51	33	8.5	74	163	250	219	156	28
18	6.0	48	47	43	30	19	82	158	356	223	163	20
19	6.9	48	48	48	30	7.9	89	165	401	202	167	18
20	11	44	52	36	27	7.1	84	148	286	172	166	17
21	6.6	47	45	39	29	22	77	124	275	154	134	38
22	13	48	45	36	25	10	71	139	292	158	82	40
23	15	46	44	38	33	8.5	75	144	341	172	72	30
24	20	41	43	39	54	8.5	78	140	397	168	68	19
25	35	50	47	33	29	23	88	148	419	154	64	9.3
26	39	53	40	41	39	10	74	157	417	142	65	20
27	37	49	47	36	29	11	63	154	432	133	64	34
28	26	47	45	41	34	14	56	140	448	157	57	32
29	26	50	51	34	---	32	56	148	423	140	51	25
30	26	50	45	50	---	13	59	167	439	119	43	21
31	27	---	54	43	---	12	---	163	---	112	44	---
TOTAL	428.7	1260	1505	1332	864	377.9	1455	3776	8186	7683	3079	816.3
MEAN	13.8	42.0	48.5	43.0	30.9	12.2	48.5	122	273	248	99.3	27.2
MAX	39	53	57	51	54	32	89	167	448	463	167	40
MIN	1.8	14	40	33	22	5.7	10	33	135	112	43	9.3
AC-FT	850	2500	2990	2640	1710	750	2890	7490	16240	15240	6110	1620

CAL YR 1978 TOTAL 30488.6 MEAN 83.5 MAX 580 MIN 1.8 AC-FT 60470
WTR YR 1979 TOTAL 30762.9 MEAN 84.3 MAX 463 MIN 1.8 AC-FT 61020

06729300 SOUTH BOULDER CREEK AT PINECLIFFE, CO

LOCATION.--Lat 39°55'54", long 105°25'21", in NW¼SW¼ sec.26, T.1 S., R.72 W., Boulder County, Hydrologic Unit 10190005, on left bank 1,200 ft (366 m) upstream from Boiling Creek, 1,600 ft (488 m) downstream from bridge on State Highway 72, and 0.5 mi (0.8 km) southeast of Pinecliffe.

DRAINAGE AREA.--72.7 mi² (188 km²).

PERIOD OF RECORD.--May to September 1979.

GAGE.--Water-stage recorder and concrete flume. Altitude of gage is 7,920 ft (2,414 m), from topographic map.

REMARKS.--Records fair.

EXTREMES FOR CURRENT YEAR.--Maximum discharge for period May to September, 1,150 ft³/s (32.6 m³/s) at 0500 June 7, gage height, 4.32 ft (1.317 m); minimum daily, 66 ft³/s (1.87 m³/s) Sept. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								---	600	571	190	94
2								---	586	538	179	90
3								---	601	515	168	87
4								---	658	533	162	83
5								---	798	485	154	81
6								---	920	466	149	79
7								---	1060	461	144	77
8								---	879	445	140	76
9								---	827	438	144	74
10								---	699	443	145	73
11								---	569	466	131	72
12								---	810	495	119	72
13								---	762	488	126	67
14								---	512	475	179	68
15								---	488	448	184	66
16								---	454	421	174	68
17								---	450	400	200	72
18								298	442	390	181	72
19								298	363	362	190	72
20								350	277	337	174	76
21								366	291	320	172	92
22								396	404	336	156	88
23								462	475	302	143	82
24								544	457	294	135	86
25								608	462	274	133	86
26								722	421	261	126	82
27								650	449	258	118	76
28								580	497	258	109	74
29								580	533	235	104	72
30								600	960	219	101	70
31								560	---	205	99	---
TOTAL								---	17304	12139	4629	2327
MEAN								---	577	392	149	77.6
MAX								---	1060	571	200	94
MIN								---	277	205	99	66
AC-FT								---	34320	24080	9180	4620

06729500 SOUTH BOULDER CREEK NEAR ELDORADO SPRINGS, CO

LOCATION.--Lat 39°55'52", long 105°17'43", in SE¼ sec.26, T.1 S., R.71 W., Boulder County, Hydrologic Unit 10190005, on left bank 0.2 mi (0.3 km) downstream from South Draw, 1.0 mi (1.6 km) west of Eldorado Springs, 1.8 mi (2.9 km) downstream from South Boulder diversion canal, 5.0 mi (8.0 km) south of Boulder, and 6.7 mi (10.8 km) downstream from Gross Reservoir.

DRAINAGE AREA.--109 mi^2 (282 km^2).

PERIOD OF RECORD.--April 1888 to October 1892, May 1895 to September 1901, August 1904 to current year. No winter records for water years 1889-92, 1900. Monthly discharge only for some periods, published in WSP 1310. Prior to January 1911, published as "at" or "near Marshall;" January 1911 to December 1913 as "at Eldorado Springs." Records for periods June 1900 to September 1901, August 1904 to September 1908, and October 1909 to September 1911, are not adjusted for diversions by Community ditch and South Boulder and Coal Creek ditch; all other records contain flow in these ditches.

REVISED RECORDS.--WSP 856: 1937(M). WSP 1310: 1937. WSP 1440: 1896. WSP 1710: Drainage area. WSP 1730: 1959-60.

GAGE.--Water-stage recorder. Altitude of gage is 6,080 ft (1,853 m), from topographic map. See WSP 1710 or 1730 for history of changes prior to May 10, 1940.

REMARKS.--Records good except those for winter period, which are fair. Many small diversions above station for irrigation. Water is imported above Gross Reservoir from Colorado River basin through Moffat water tunnel (see elsewhere in this report). Flow regulated since May 1, 1955, by Gross Reservoir, capacity, 43,060 acre-ft (53.1 hm^3), 6.7 mi (10.8 km) above station. City of Denver diverts water 1.8 mi (2.9 km) above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--23 years (water years 1957-79), 62.8 ft^3/s (1.778 m^3/s), 45,500 acre-ft/yr (56.1 hm^3/yr), unadjusted for storage and diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,390 ft^3/s (209 m^3/s) Sept. 2, 1938, gage height, 9.24 ft (2.816 m), from floodmarks, site and datum then in use, from rating curve extended above 600 ft^3/s (17 m^3/s), on basis of slope-area measurement of peak flow; no flow Oct. 15, 1932.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 326 ft^3/s (9.23 m^3/s) at 1000 July 3, gage height, 3.04 ft (0.927 m); minimum daily, 4.8 ft^3/s (0.14 m^3/s) Oct. 7, 9, 10, 20, 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	12	9.5	6.0	6.5	11	29	89	203	318	72	35
2	10	12	9.5	6.0	6.5	11	30	100	200	318	62	35
3	5.2	12	9.5	6.0	6.5	11	29	96	200	318	59	35
4	5.6	12	9.5	6.0	6.5	11	27	98	200	294	59	51
5	5.6	12	9.5	6.0	6.5	11	26	116	200	282	54	58
6	5.2	12	9.5	6.0	6.5	11	28	118	226	266	54	42
7	4.8	12	7.0	6.0	6.5	11	30	116	254	246	54	33
8	10	12	6.0	6.0	6.5	9.5	32	123	178	240	50	32
9	4.8	12	6.0	6.0	6.5	8.5	37	96	167	240	49	31
10	4.8	12	6.0	6.0	6.5	8.5	53	59	155	226	65	30
11	5.2	12	6.0	6.0	6.5	8.5	76	62	133	206	67	30
12	5.2	12	6.0	6.0	6.5	9.0	85	70	118	184	52	33
13	5.2	12	6.0	6.0	9.0	8.5	74	76	109	172	46	38
14	5.6	11	6.0	6.0	11	8.5	76	76	106	172	54	34
15	5.6	11	6.0	6.0	11	8.5	100	72	131	172	69	28
16	5.6	11	6.0	6.0	11	8.5	111	69	139	147	79	28
17	5.6	11	6.0	6.0	11	8.0	111	79	144	131	83	22
18	5.6	11	6.0	6.0	11	8.5	106	104	152	126	69	17
19	5.2	11	6.0	6.0	11	12	131	104	167	139	56	17
20	4.8	11	6.0	6.0	11	19	144	100	181	147	56	18
21	4.8	11	6.0	6.5	11	22	139	98	178	118	54	19
22	9.5	11	6.0	6.5	11	19	133	118	203	104	53	19
23	7.2	10	6.0	6.5	11	19	116	152	226	104	56	18
24	9.5	10	6.0	6.5	11	20	104	167	229	102	43	21
25	12	10	6.0	6.5	11	24	102	144	243	102	40	24
26	12	11	6.0	6.5	11	28	98	144	254	102	43	26
27	13	10	6.0	6.5	11	29	96	170	266	96	42	24
28	13	10	6.0	6.5	11	32	94	212	274	89	42	23
29	12	9.5	6.0	6.5	---	34	89	250	294	89	43	21
30	12	9.5	6.0	6.5	---	32	85	258	314	83	45	20
31	12	---	6.0	6.5	---	31	---	222	---	79	38	---
TOTAL	240.6	335.0	208.0	191.5	252.0	492.5	2391	3758	5844	5412	1708	862
MEAN	7.76	11.2	6.71	6.18	9.00	15.9	79.7	121	195	175	55.1	28.7
MAX	14	12	9.5	6.5	11	34	144	258	314	318	83	58
MIN	4.8	9.5	6.0	6.0	6.5	8.0	26	59	106	79	38	17
AC-FT	477	664	413	380	500	977	4740	7450	11590	10730	3390	1710

CAL YR 1978 TOTAL 22382.2 MEAN 61.3 MAX 348 MIN 4.8 AC-FT 44400
WTR YR 1979 TOTAL 21694.6 MEAN 59.4 MAX 318 MIN 4.8 AC-FT 43030

NOTE.--NO GAGE-HEIGHT RECORD DEC. 2 TO MAR. 6.

06730300 COAL CREEK NEAR PLAINVIEW, CO

LOCATION.--Lat 39°52'40", long 105°16'36", in SE¼NE¼ sec.13, T.2 S., R.71 W., Jefferson County, Hydrologic Unit 10190005, on left bank 100 ft (30 m) upstream from culvert on State Highway 72, 1.2 mi (1.9 km) south of Plainview, 4.9 mi (7.9 km) downstream from Beaver Creek, and 9 mi (14 km) north of Golden.

DRAINAGE AREA.--15.1 mi² (39.1 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1959 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 6,540 ft (1,993 m), from topographic map. Prior to June 17, 1964, water-stage recorder at site 60 ft (18 m) downstream at datum 4.49 ft (1.369 m) lower.

REMARKS.--Records good except those for winter period, which are poor. No diversion above station.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--20 years, 4.32 ft³/s (0.122 m³/s), 3,130 acre-ft/yr (3.86 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,060 ft³/s (58.3 m³/s) May 7, 1969, gage height, 5.30 ft (1.615 m), from rating curve extended above 730 ft³/s (21 m³/s); no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 96 ft³/s (2.72 m³/s) at 1500 June 9, gage height, 1.57 ft (0.479 m); Oct. 1, 2, 10, 11, 15, 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.73	.35	.15	.50	.25	9.6	16	30	3.8	.23	.61
2	.01	.67	.25	.20	.50	.30	8.7	22	34	3.6	.16	.55
3	.02	.67	.20	.30	.45	.30	7.9	23	35	3.4	.16	.45
4	.03	.61	.25	.30	.50	.20	7.5	30	31	3.2	.13	.35
5	.03	.55	.25	.25	.50	.40	9.5	46	26	3.0	.07	.27
6	.03	.50	.20	.30	.50	.60	15	56	22	2.8	.07	.23
7	.03	.45	.15	.25	.50	1.4	19	56	23	2.3	.05	.31
8	.02	.40	.10	.20	.40	1.8	21	52	58	2.0	.05	.27
9	.02	.40	.20	.30	.40	1.5	21	46	89	1.8	.22	.19
10	.01	.40	.30	.40	.50	1.9	19	42	81	1.5	4.7	.16
11	.01	.40	.30	.60	.50	2.2	17	42	69	1.3	1.4	.19
12	.02	.45	.40	.65	.50	2.7	17	48	57	1.2	.67	.27
13	.02	.40	.35	.40	.55	2.5	17	50	48	1.1	.61	.31
14	.02	.40	.35	.40	.60	2.2	22	51	38	1.0	2.1	.55
15	.01	.35	.45	.45	.30	2.2	36	52	30	.94	3.0	.45
16	.01	.35	.45	.50	.10	2.3	35	56	26	.94	2.2	.31
17	.02	.31	.45	.45	.15	2.2	43	52	22	.94	2.3	.27
18	.02	.31	.45	.45	.20	2.2	46	48	19	1.0	2.8	.23
19	.03	.31	.50	.45	.20	2.2	47	44	16	.80	3.4	.23
20	.03	.31	.35	.45	.20	2.3	42	41	14	.67	3.2	.23
21	.03	.27	.35	.50	.20	2.5	37	35	12	.61	2.5	.23
22	.16	.27	.45	.50	.20	3.0	35	31	10	.67	2.2	.23
23	.16	.23	.40	.30	.20	3.2	34	29	10	.61	2.0	.16
24	.73	.23	.40	.35	.15	5.0	35	25	8.7	.50	1.8	.16
25	1.1	.27	.40	.40	.20	8.7	34	22	7.1	.40	1.6	.16
26	1.5	.35	.30	.30	.35	10	28	21	6.1	.35	1.6	.16
27	1.6	.35	.40	.25	.35	10	24	17	5.2	.35	1.8	.16
28	1.4	.35	.45	.30	.25	14	22	17	5.0	.35	1.2	.16
29	1.2	.35	.30	.30	---	14	18	17	4.5	.23	1.0	.13
30	1.0	.35	.25	.30	---	12	16	19	4.0	.23	.80	.13
31	.94	---	.20	.40	---	10	---	24	---	.27	.73	---
TOTAL	10.22	11.99	10.20	11.35	9.95	124.05	743.2	1130	840.6	41.86	44.75	8.11
MEAN	.33	.40	.33	.37	.36	4.00	24.8	36.5	28.0	1.35	1.44	.27
MAX	1.6	.73	.50	.65	.60	14	47	56	89	3.8	4.7	.61
MIN	.01	.23	.10	.15	.10	.20	7.5	16	4.0	.23	.05	.13
AC-FT	20	24	20	23	20	246	1470	2240	1670	83	89	16

CAL YR 1978 TOTAL 588.83 MEAN 1.61 MAX 34 MIN .01 AC-FT 1170
WTR YR 1979 TOTAL 2986.28 MEAN 8.18 MAX 89 MIN .01 AC-FT 5920

NOTE.--NO GAGE-HEIGHT RECORD DEC. 26 TO FEB. 12.

06730300 COAL CREEK NEAR PLAINVIEW, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 1977 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	TEMPERATURE (DEG C)
OCT		
13...	1005	10.0
13...	1500	12.0
24...	0905	6.0
NOV		
08...	1535	10.0
21...	0905	2.0
29...	1500	3.0
DEC		
06...	0905	.0
20...	1025	.5
21...	0845	.0
JAN		
11...	1205	.5
23...	0940	.0
FEB		
01...	1155	1.0
20...	0855	1.0
22...	1030	1.5
MAR		
06...	1240	1.0
20...	1500	3.0
29...	0805	2.5
APR		
04...	1200	4.0
APR		
17...	1605	4.5
19...	0840	4.5
MAY		
04...	1315	9.0
07...	1045	5.0
16...	0835	2.5
30...	1330	6.0
JUN		
06...	0935	9.5
13...	0720	7.0
27...	1510	19.0
JUL		
11...	1315	20.0
13...	1430	21.0
24...	1140	18.0
AUG		
06...	1300	23.0
08...	1210	23.0
21...	1325	16.0
SEP		
06...	1655	18.0
07...	0845	14.0
18...	1445	16.0

06730300 COAL CREEK NEAR PLAINVIEW, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT 13...	1500	E.05	470	7.5	12.0	7.2	120	25	28	11
NOV 29...	1500	.05	210	7.7	3.0	10.0	57	26	15	4.7
DEC 21...	0845	.40	220	7.4	.0	12.2	58	27	15	5.0
JAN 23...	0940	.02	240	7.4	.0	9.4	70	41	18	6.2
FEB 20...	0855	.06	240	7.8	1.0	11.2	67	46	18	5.3
MAR 29...	0805	6.9	220	7.5	2.5	10.8	60	40	17	4.3
APR 19...	0840	28	135	7.5	4.5	9.9	37	25	10	2.8
MAY 07...	1045	36	105	7.3	5.0	10.2	30	17	8.3	2.2
JUN 06...	0935	14	100	7.5	9.5	9.0	30	13	8.4	2.2
JUL 13...	1430	.40	147	7.7	21.0	6.8	41	11	11	3.3
AUG 06...	1300	E.10	260	7.6	23.0	5.9	60	17	16	4.9
SEP 07...	0845	.02	235	8.6	14.0	7.7	60	16	16	4.9

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 13...	44	1.8	2.1	110	0	90	18	82	.2
NOV 29...	16	.9	1.2	37	0	30	18	36	.2
DEC 21...	17	1.0	1.3	38	0	31	19	33	.2
JAN 23...	21	1.1	1.3	--	--	29	23	39	.2
FEB 20...	17	.9	1.1	--	--	21	17	43	.1
MAR 29...	17	1.0	1.4	--	--	20	12	38	.2
APR 19...	10	.7	1.4	--	--	12	14	17	.2
MAY 07...	7.5	.6	1.3	--	--	13	12	13	.2
JUN 06...	6.8	.5	1.3	--	--	17	12	8.3	.2
JUL 13...	12	.8	1.2	--	--	30	14	18	.3
AUG 06...	21	1.2	1.6	--	--	43	16	39	.3
SEP 07...	21	1.2	1.1	--	--	44	14	32	.3

E ESTIMATED.

06730300 COAL CREEK NEAR PLAINVIEW, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT 13...	17	257	.35	.03	.04	.000	--	170	80
NOV 29...	12	122	.17	.02	.03	.010	.00	80	10
DEC 21...	11	121	.16	.13	.10	.010	--	50	20
JAN 23...	13	140	.19	.01	.20	.010	--	50	10
FEB 20...	10	125	.17	.02	.09	.020	--	10	0
MAR 29...	9.2	118	.16	2.20	1.6	.010	--	80	0
APR 19...	13	80	.11	6.05	.86	.010	--	120	6
MAY 07...	14	69	.09	6.71	.52	.010	--	120	5
JUN 06...	12	62	.08	2.34	.16	.020	--	90	0
JUL 13...	16	94	.13	.10	.00	.010	--	150	20
AUG 06...	16	141	.19	.04	.05	.030	--	160	30
SEP 07...	16	132	.18	.01	.07	.000	.01	360	50

06730500 BOULDER CREEK AT MOUTH NEAR LONGMONT, CO

LOCATION.--Lat 40°09'08", long 105°00'52", in NW¼SW¼ sec.9, T.2 N., R.68 W., Weld County, Hydrologic Unit 10190005, on left bank 0.6 mi (1.0 km) upstream from mouth, 1.0 mi (1.6 km) downstream from State Highway 254, and 4.8 mi (7.7 km) southeast of Longmont.

DRAINAGE AREA.--439 mi^2 (1,137 km^2).

PERIOD OF RECORD.--March 1927 to September 1949, May 1951 to September 1955, October 1978 to September 1979.

GAGE.--Water-stage recorder. Altitude of gage is 4,860 ft (1,481 m), from topographic map. Prior to June 10, 1939, at site 0.8 mi (1.3 km) upstream at different datum. June 10, 1939, to Sept. 30, 1949, at site 1.0 mi (1.6 km) upstream at different datum. May 1, 1951, to Sept. 30, 1955, at site 1.4 mi (2.3 km) upstream at different datum.

REMARKS.--Records fair except those for winter period and period of no gage-height record, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,410 ft^3/s (125 m^3/s) Sept. 3, 1938, gage height, 6.94 ft (2.115 m), site and datum then in use, from rating curve extended above 340 ft^3/s (9.63 m^3/s), on basis of slope-area measurement of peak flow; no flow at times many years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,040 ft^3/s (29.5 m^3/s) at 0400 June 10, gage height, 4.23 ft (1.289 m); minimum daily, 5.2 ft^3/s (0.15 m^3/s) Sept. 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	52	55	64	70	64	47	46	250	121	60	24
2	17	50	54	64	70	52	50	129	221	141	56	20
3	14	51	55	64	70	43	47	150	222	82	54	22
4	16	49	66	64	70	38	50	142	229	51	54	33
5	23	47	59	64	70	37	44	127	175	53	54	17
6	34	48	60	64	70	44	41	109	103	36	54	16
7	33	57	60	64	70	49	40	134	101	18	54	18
8	24	61	60	64	70	49	39	222	466	11	54	12
9	22	60	60	64	70	53	41	403	926	12	60	12
10	16	58	60	64	70	47	44	329	805	7.2	400	10
11	16	78	60	64	70	55	78	325	639	6.0	350	8.0
12	13	80	60	64	72	47	80	282	562	7.6	300	16
13	16	76	60	64	77	43	73	271	461	6.8	250	25
14	17	68	60	64	79	47	60	288	372	6.4	220	33
15	17	74	60	64	80	42	54	273	396	5.6	240	20
16	24	71	60	64	80	48	60	273	315	11	240	8.6
17	20	72	60	64	80	41	69	230	282	26	300	7.0
18	21	67	60	64	80	45	103	279	326	30	250	5.4
19	27	72	63	64	80	65	105	275	342	35	330	5.2
20	26	72	64	64	80	51	93	276	304	35	330	6.5
21	26	70	64	64	80	42	92	252	203	35	155	9.3
22	110	67	64	64	78	60	90	202	161	80	97	10
23	72	62	64	64	70	60	94	214	190	66	76	11
24	48	57	64	64	56	53	95	195	244	60	67	8.3
25	47	53	64	64	77	45	107	172	259	55	58	11
26	56	61	64	64	63	48	90	170	227	54	49	20
27	52	63	64	68	73	44	61	164	205	54	56	22
28	40	62	64	69	66	42	60	154	198	60	58	20
29	34	57	64	70	---	41	51	153	165	54	49	21
30	34	57	64	70	---	47	44	275	117	54	34	16
31	49	---	64	70	---	41	---	371	---	60	29	---
TOTAL	978	1872	1900	2011	2041	1483	2002	6885	9466	1333.6	4438	467.3
MEAN	31.5	62.4	61.3	64.9	72.9	47.8	66.7	222	316	43.0	143	15.6
MAX	110	80	66	70	80	65	107	403	926	141	400	33
MIN	13	47	54	64	56	37	39	46	101	5.6	29	5.2
AC-FT	1940	3710	3770	3990	4050	2940	3970	13660	18780	2650	8800	927

WTR YR 1979 TOTAL 34876.9 MEAN 95.6 MAX 926 MIN 5.2 AC-FT 69180

06731000 ST. VRAIN CREEK AT MOUTH, NEAR PLATTEVILLE, CO

LOCATION.--Lat 40°15'29", long 104°52'45", in SE¼NW¼ sec.3, T.3 N., R.67 W., Weld County, Hydrologic Unit 10190005, on right bank 140 ft (43 m) downstream from bridge on county road, 1.3 mi (2.1 km) upstream from mouth, and 4.2 mi (6.8 km) northwest of Platteville.

DRAINAGE AREA.--976 mi^2 (2,528 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1904 to December 1906, April to December 1915, March 1927 to current year. Prior to October 1933, monthly discharge only, published in WSP 1310.

REVISED RECORDS.--WSP 956: 1938(M). WSP 1440: 1934, 1935(M). WSP 1730: 1958, drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 4,740 ft (1,445 m), from topographic map. See WSP 1730 for history of changes prior to Apr. 25, 1960.

REMARKS.--Records good. Diversions above station for irrigation of about 177,000 acres (716 km^2). Flow partly regulated by many small reservoirs above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--54 years (water years 1905-6, 1928-79), 203 ft^3/s (5.749 m^3/s), 147,100 acre-ft/yr (181 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,300 ft^3/s (320 m^3/s) Sept. 3, 1938, gage height, 8.93 ft (2.722 m), site and datum then in use, from rating curve extended above 4,700 ft^3/s (133 m^3/s); minimum daily, 12 ft^3/s (0.34 m^3/s) Apr. 23, 1935.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,400 ft^3/s (96.3 m^3/s) at 0300 June 10, gage height, 6.22 ft (1.896 m); minimum daily, 61 ft^3/s (1.73 m^3/s) Dec. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	113	138	160	85	90	150	145	80	1200	371	230	271
2	127	134	164	100	90	137	142	224	1060	406	211	265
3	121	132	145	115	100	122	136	547	1020	372	201	263
4	125	130	158	145	110	119	136	439	976	258	198	258
5	115	132	160	140	110	116	124	431	854	255	189	267
6	121	130	166	150	120	123	107	407	696	216	184	258
7	136	136	102	145	125	119	102	383	671	222	170	240
8	129	143	72	145	130	118	95	475	1520	213	167	236
9	119	145	103	145	130	131	102	971	2930	210	177	222
10	117	139	140	150	135	127	104	831	3160	207	322	215
11	113	155	150	150	135	123	208	763	2310	205	421	219
12	102	159	160	150	140	121	235	694	2010	198	353	226
13	106	155	160	140	140	113	174	746	1770	206	316	243
14	113	151	160	130	145	109	173	754	1670	196	325	256
15	133	159	160	150	140	105	179	775	1800	201	447	256
16	122	155	160	145	135	106	186	810	1850	220	368	232
17	135	155	155	150	140	103	229	776	1660	253	628	217
18	128	155	160	155	142	118	274	873	1660	258	453	215
19	113	158	160	155	148	151	318	931	1640	283	746	201
20	112	161	155	160	141	137	313	956	1400	260	1050	184
21	102	164	150	150	136	127	208	946	1050	252	670	183
22	281	162	145	140	134	151	212	799	839	270	482	182
23	324	154	150	120	139	167	200	764	651	255	380	177
24	212	147	153	130	136	157	199	771	707	241	339	171
25	177	146	147	140	151	132	253	788	711	230	317	161
26	163	153	124	130	140	123	251	839	709	217	298	162
27	155	157	122	120	160	129	196	840	628	215	282	164
28	140	159	138	110	158	126	137	759	532	235	296	163
29	133	159	93	120	---	135	105	833	480	239	300	164
30	126	157	61	100	---	143	87	1080	394	240	278	163
31	132	---	70	80	---	130	---	1390	---	245	292	---
TOTAL	4345	4480	4303	4145	3700	3968	5330	22675	38558	7649	11090	6434
MEAN	140	149	139	134	132	128	178	731	1285	247	358	214
MAX	324	164	166	160	160	167	318	1390	3160	406	1050	271
MIN	102	130	61	80	90	103	87	80	394	196	167	161
AC-FT	8620	8890	8530	8220	7340	7870	10570	44980	76480	15170	22000	12760

CAL YR 1978 TOTAL 79998 MEAN 219 MAX 1900 MIN 61 AC-FT 158700
WTR YR 1979 TOTAL 116677 MEAN 320 MAX 3160 MIN 61 AC-FT 231400

06731000 ST. VRAIN CREEK AT MOUTH, NEAR PLATTEVILLE, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--February 1955 to August 1956, September 1965 to September 1968, October 1970 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	TEMPER-ATURE (DEG C)	DATE	TIME	TEMPER-ATURE (DEG C)
OCT			MAR		
11...	1140	14.0	29...	1015	9.0
17...	0910	10.0	APR		
NOV			10...	1040	10.0
28...	1153	1.5	MAY		
DEC			09...	0922	4.5
19...	1540	2.0	JUN		
28...	1220	1.0	14...	1415	16.0
JAN			20...	0834	11.5
03...	1410	1.0	JUL		
11...	1350	.0	10...	0900	19.0
25...	0815	.0	AUG		
FEB			16...	0850	16.5
02...	1100	1.0	20...	1130	13.0
12...	0933	.0	SEP		
16...	1645	1.0	28...	0940	14.5
MAR					
06...	1435	7.0			

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT										
17...	0910	114	2000	8.1	10.0	8.6	900	620	180	110
NOV										
28...	1153	160	1210	8.6	1.5	10.4	470	270	86	62
DEC										
28...	1220	168	1250	7.9	1.0	10.9	480	270	84	65
JAN										
25...	0815	175	1100	7.7	.0	12.5	410	220	75	53
FEB										
12...	0933	E236	1100	7.9	.0	8.6	410	250	77	53
MAR										
29...	1015	128	1500	8.1	9.0	8.4	600	370	110	80
APR										
10...	1040	100	1370	8.0	10.0	8.0	540	330	110	64
MAY										
09...	0922	1150	630	7.8	4.5	7.7	230	140	43	29
JUN										
20...	0834	1370	315	7.7	11.5	7.2	110	63	23	12
JUL										
10...	0900	173	1460	8.0	19.0	6.1	530	330	90	75
AUG										
16...	0850	353	1180	7.9	16.5	6.2	460	270	88	59
SEP										
28...	0940	145	1580	8.0	14.5	7.3	580	330	110	74

E ESTIMATED.

06731000 ST. VRAIN CREEK AT MOUTH, NEAR PLATTEVILLE, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT									
17...	160	2.3	4.8	350	0	290	880	27	1.3
NOV									
28...	95	1.9	4.1	250	0	210	430	28	.9
DEC									
28...	99	2.0	4.1	250	0	210	440	25	.9
JAN									
25...	88	1.9	4.0	--	--	190	370	24	.8
FEB									
12...	86	1.8	3.8	--	--	160	370	26	.8
MAR									
29...	130	2.3	5.2	--	--	230	590	34	1.2
APR									
10...	120	2.3	2.0	--	--	210	490	27	1.0
MAY									
09...	51	1.5	4.6	--	--	89	230	13	.5
JUN									
20...	21	.9	1.5	--	--	44	86	5.2	.2
JUL									
10...	120	2.3	5.6	--	--	200	540	26	1.0
AUG									
16...	100	2.0	4.3	--	--	190	460	24	.9
SEP									
28...	140	2.5	5.6	--	--	250	580	35	1.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT									
17...	1.0	1550	2.11	477	3.2	.320	--	20	80
NOV									
28...	8.4	852	1.16	368	2.9	.620	.57	20	70
DEC									
28...	8.8	863	1.17	391	2.9	.430	--	40	100
JAN									
25...	9.0	749	1.02	354	2.4	.520	--	20	120
FEB									
12...	8.2	743	1.01	473	5.0	.590	--	30	180
MAR									
29...	5.6	1110	1.51	384	2.5	.050	--	50	220
APR									
10...	6.0	961	1.31	259	3.0	.690	.53	20	220
MAY									
09...	9.0	442	.60	1370	1.9	.120	--	80	130
JUN									
20...	7.2	185	.25	684	.55	.100	--	80	20
JUL									
10...	10	1000	1.36	467	3.4	.450	--	10	80
AUG									
16...	11	873	1.19	832	2.6	.270	--	20	40
SEP									
28...	9.8	1120	1.52	438	3.3	.640	--	20	100

06733000 BIG THOMPSON RIVER AT ESTES PARK, CO

LOCATION.--Lat 40°22'42", long 105°30'48", in NW¼NW¼ sec.30, T.5 N., R.72 W., Larimer County, Hydrologic Unit 10190006, on right bank in Estes Park, 600 ft (180 m) downstream from bridge on State Highways 7 and 66, 900 ft (270 m) downstream from Black Canyon Creek, and 0.3 mi (0.5 km) northwest of Estes powerplant. Station is upstream from Lake Estes.

DRAINAGE AREA.--137 mi² (486 km²).

PERIOD OF RECORD.--October 1946 to current year. Prior to October 1947, published as Thompson River at Estes Park.

GAGE.--Water-stage recorder and Parshall flume with overflow weirs. Datum of gage is 7,492.5 ft (2,283.71 m) National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation). Prior to May 18, 1949, at site 740 ft (230 m) downstream at different datum. May 18, 1949, to Mar. 22, 1951, at site 60 ft (18 m) upstream at datum 1.2 ft (0.37 m) higher.

REMARKS.--Records good except those for winter period, which are fair. Diversion from Colorado River basin to Big Thompson River basin above station through Alva B. Adams tunnel began Aug. 10, 1947, and ended Aug. 2, 1950. Small power developments and small diversions for irrigation and municipal use above station. Diversions above station from Wind River to Lake Estes (bypassing this station) were 1,730 acre-ft (2.13 hm³) during current year. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--33 years, 125 ft³/s (3.540 m³/s), 90,560 acre-ft/yr (112 hm³/yr), adjusted for inflow from Alva B. Adams tunnel Aug. 10, 1947, to Aug. 2, 1950.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,660 ft³/s (47.0 m³/s) June 18, 1949, gage height, 3.16 ft (0.963 m), site and datum then in use; maximum gage height, 6.89 ft (2.100 m) June 17, 1965; minimum discharge not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,270 ft³/s (36.0 m³/s) at 0400 June 15, gage height, 6.22 ft (1.896 m), only peak above base of 600 ft³/s (17.0 m³/s); minimum daily, 9.4 ft³/s (0.266 m³/s) Feb. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	24	16	11	9.7	11	17	68	425	733	219	115
2	33	25	15	11	9.7	11	17	84	366	728	201	111
3	30	24	15	11	9.6	12	18	72	387	685	185	105
4	30	23	14	11	9.5	12	18	71	479	740	177	100
5	28	24	14	11	9.5	12	18	92	577	641	172	96
6	28	20	16	11	9.5	13	20	118	726	557	171	93
7	28	20	16	11	9.4	13	27	139	889	559	171	91
8	27	21	15	12	9.5	14	28	124	695	516	171	86
9	26	20	15	12	9.6	13	30	108	559	481	181	85
10	25	19	15	12	9.8	11	33	96	477	453	256	84
11	24	16	14	12	10	13	28	90	514	421	215	86
12	23	26	14	12	11	14	26	92	632	413	179	87
13	23	22	14	12	12	16	23	98	840	419	187	85
14	23	21	14	11	12	18	25	112	1060	429	204	85
15	23	19	14	11	12	14	30	142	1140	415	198	75
16	22	25	14	11	12	12	44	179	990	385	219	67
17	22	26	13	11	11	12	57	268	994	413	225	57
18	22	27	13	11	11	12	68	312	990	385	255	56
19	24	20	13	11	11	12	78	363	790	352	337	53
20	22	22	13	11	11	13	77	379	577	323	305	53
21	23	24	13	11	11	12	77	323	579	300	295	57
22	47	24	13	11	11	12	75	361	669	309	228	52
23	34	20	13	11	11	16	72	425	745	321	197	49
24	37	24	13	11	11	16	78	500	730	357	175	47
25	35	17	12	11	11	17	73	548	745	330	159	47
26	28	15	12	11	11	16	64	599	735	299	149	45
27	29	20	12	11	11	16	65	648	726	300	138	45
28	28	24	12	10	11	20	69	730	790	309	130	44
29	28	20	12	10	---	19	64	875	784	287	124	42
30	26	17	12	10	---	18	67	799	747	254	123	40
31	24	---	12	10	---	18	---	555	---	239	123	---
TOTAL	855	649	423	343	296.8	438	1386	9370	21357	13353	6069	2138
MEAN	27.6	21.6	13.6	11.1	10.6	14.1	46.2	302	712	431	196	71.3
MAX	47	27	16	12	12	20	78	875	1140	740	337	115
MIN	22	15	12	10	9.4	11	17	68	366	239	123	40
AC-FT	1700	1290	839	680	589	869	2750	18590	42360	26490	12040	4240

CAL YR 1978 TOTAL 56564.0 MEAN 155 MAX 1210 MIN 10 AC-FT 112200
WTR YR 1979 TOTAL 56677.8 MEAN 155 MAX 1140 MIN 9.4 AC-FT 112400

NOTE.--NO GAGE-HEIGHT RECORD DEC. 6 TO MAR. 16.

06734900 OLYMPUS TUNNEL AT LAKE ESTES, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 40°22'30", long 105°29'13", in SE¼NW¼ sec.29, T.5 N., R.72 W., Larimer County, Hydrologic Unit 10190006, at tunnel entrance at south end of Olympus Dam on Lake Estes, 1.9 mi (3.0 km) east of Estes Park.

PERIOD OF RECORD.--September 1970 to current year.

REMARKS.--Tunnel is part of Colorado-Big Thompson project. Field data collected prior to 1974 water year available in district office. Records of discharge are estimated values.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNESIUM, DIS-SOLVED (MG/L AS MG)
OCT 13...	1015	500	48	7.8	9.0	7.8	520	K4	18	0	5.4	1.0
NOV 28...	1000	500	50	7.5	2.5	10.6	150	K2	19	0	5.7	1.1
DEC 20...	1030	500	55	7.5	1.0	12.6	K18	<1	22	2	6.5	1.3
JAN 25...	1045	550	55	7.3	1.0	10.2	20	K3	24	3	7.4	1.4
FEB 22...	1000	500	55	7.3	1.5	10.6	100	K1	24	3	7.2	1.4
MAR 28...	0920	500	60	7.4	2.5	9.8	K4	K1	27	4	8.3	1.4
APR 18...	1350	500	60	6.6	6.0	8.3	280	60	23	5	6.8	1.4
MAY 10...	1010	450	55	7.4	3.5	10.4	K81	25	21	4	5.9	1.4
JUN 07...	0945	575	26	6.8	8.0	8.4	K2700	38	7	1	2.4	.3
JUL 12...	1300	500	22	7.0	14.0	7.9	K880	40	7	0	2.1	.5
AUG 23...	1030	500	32	7.2	13.0	8.0	K1100	38	8	4	2.4	.6
SEP 19...	1010	300	29	7.8	14.0	7.9	150	K3	11	1	3.6	.4

K BASED ON NON-IDEAL COLONY COUNT.

06734900 OLYMPUS TUNNEL AT LAKE ESTES, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
OCT 13...	2.1	.2	.6	23	0	19	4.1	.4	.1	3.3	32	29
NOV 28...	2.3	.2	.9	24	0	20	3.1	.8	.1	4.1	32	30
DEC 20...	2.4	.2	1.1	24	0	20	4.3	.7	.1	5.0	37	34
JAN 25...	2.5	.2	1.1	--	--	21	5.9	.8	.1	5.9	45	38
FEB 22...	2.6	.2	.8	--	--	21	4.2	.7	.1	6.1	44	37
MAR 28...	2.4	.2	.7	--	--	23	4.1	.6	.1	5.5	39	38
APR 18...	2.5	.2	.8	--	--	18	7.0	1.0	.2	6.6	48	38
MAY 10...	2.8	.3	.8	--	--	17	4.1	1.2	.2	7.0	40	34
JUN 07...	1.7	.3	.7	--	--	6	7.8	.8	.1	5.3	26	23
JUL 12...	1.4	.2	.4	--	--	7	3.1	.6	.2	4.9	17	18
AUG 23...	1.4	.2	.3	--	--	4	11	.7	.4	3.4	19	23
SEP 19...	1.7	.2	.5	--	--	10	7.7	.5	.2	3.1	16	24

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	PHYTO- PLANK- TON, TOTAL (CELLS PER ML)
OCT 13...	.04	43.2	.02	.00	.02	.00	.020	.000	.00	80	<1	11000
NOV 28...	.04	43.2	.08	.01	.09	.10	.030	.030	.00	110	5	6600
DEC 20...	.05	49.9	.14	.00	.14	.09	.030	.030	.01	220	4	1000
JAN 25...	.06	66.8	.12	.00	.12	.01	.030	.030	.01	160	0	130
FEB 22...	.06	59.4	.13	.01	.14	.02	.040	.040	.05	160	0	280
MAR 28...	.05	52.6	.15	.01	.16	.04	.030	.020	.01	190	0	540
APR 18...	.07	64.8	.16	.01	.17	.02	.030	.030	.02	150	6	2300
MAY 10...	.05	48.6	.14	.00	.14	.01	.010	.010	--	140	8	2800
JUN 07...	.04	40.4	.09	.01	.10	.03	.020	.010	--	100	10	120
JUL 12...	.02	22.9	.02	.00	.02	.01	.030	.010	--	90	8	620
AUG 23...	.03	25.6	.06	.00	.06	.02	.020	.010	--	100	4	3100
SEP 19...	.02	13.0	.01	.01	.02	.01	.020	.010	.02	70	10	6400

06734900 OLYMPUS TUNNEL AT LAKE ESTES, CO--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1978 TO SEPTEMBER 1979

DATE	OCT 13,78	NOV 28,78	DEC 20,78	JAN 25,79	FEB 22,79	MAR 28,79
TIME	1015	1000	1030	1045	1000	0920
TOTAL CELLS/ML	11000	6600	1000	130	280	540
DIVERSITY: DIVISION	0.3	0.7	1.3	0.4	0.5	0.9
.CLASS	0.3	0.7	1.3	0.4	0.5	0.9
..ORDER	0.4	1.0	1.5	1.1	1.4	1.6
...FAMILY	0.4	1.2	1.9	1.2	1.9	2.2
....GENUS	0.5	0.0	2.8	1.8	2.0	2.8

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)												
.CHLOROPHYCEAE												
..CHLOROCOCCALES												
...CHARACIACEAE												
....SCHROEDERIA	--	-	33	1	--	-	--	-	--	-	--	-
...MICRACTINIACEAE												
....GOLENKINIA	--	-	--	-	*	0	--	-	--	-	--	-
....MICRACTINIUM	--	-	--	-	--	-	--	-	--	-	--	-
...OOCYSTACEAE												
....ANKISTRODESMUS	*	0	67	1	15	1	--	-	--	-	--	-
....CHODATELLA	*	0	370	6	100	10	--	-	--	-	5	1
....CLOSTERIOPSIS	*	0	--	-	--	-	--	-	--	-	--	-
....KIRCHNERIELLA	--	-	--	-	--	-	--	-	--	-	--	-
....OOCYSTIS	--	-	--	-	20	2	--	-	--	-	--	-
...SCENEDESMACEAE												
....SCENEDESMUS	--	-	270	4	91	9	--	-	--	-	10	2
....TETRASTRUM	--	-	130	2	100	10	--	-	--	-	--	-
..TETRASPORALES												
...PALMELLACEAE												
....SPHAEROCYSTIS	--	-	--	-	--	-	--	-	--	-	--	-
..VOLVOCALES												
...CHLAMYDOMONADACEAE	--	-	67	1	--	-	--	-	--	-	--	-
....CHLAMYDOMONAS	*	0	--	-	20	2	10	8	--	-	10	2
...VOLVOCACEAE												
....EUDORINA	--	-	--	-	--	-	--	-	--	-	--	-
....PANDORINA	--	-	270	4	--	-	--	-	--	-	81	15
CHRYSOPHYTA												
.BACILLARIOPHYCEAE												
..CENTRALES												
...COSCINODISCACEAE												
....CYCLOTELLA	95	1	2500#	38	300#	30	15	12	--	-	140#	26
....MELOSIRA	10000#	94	2700#	41	300#	29	81#	62	150#	55	180#	33
....STEPHANODISCUS	--	-	--	-	--	-	--	-	--	-	--	-
..PENNALES												
...ACHNANTHACEAE												
....ACHNANTHES	--	-	--	-	--	-	--	-	--	-	--	-
....COCCONEIS	--	-	--	-	--	-	--	-	--	-	15	3
...CYMBELLACEAE												
....CYMBELLA	*	0	--	-	--	-	--	-	--	-	10	2
...DIATOMACEAE												
....DIATOMA	--	-	--	-	--	-	--	-	--	-	10	2
...FRAGILARIACEAE												
....ASTERIONELLA	--	-	--	-	--	-	--	-	15	5	--	-
....FRAGILARIA	--	-	--	-	--	-	15	12	--	-	--	-
....HANNAEA	--	-	33	1	--	-	--	-	--	-	--	-
....SYNEDRA	63	1	67	1	*	0	5	4	20	7	5	1
...NAVICULACEAE												
....NAVICULA	--	-	67	1	--	-	--	-	25	9	25	5
...NITZSCHIACEAE												
....NITZSCHIA	95	1	--	-	--	-	5	4	35	13	35	7
...TABELLARIACEAE												
....TABELLARIA	--	-	--	-	--	-	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)												
.CRYPTOPHYCEAE												
..CRYPTOMONADALES												
...CRYPTOCHRYSIDACEAE												
....CHROOMONAS	--	-	--	-	--	-	--	-	--	-	--	-
...CRYPTOMONADACEAE												
....CRYPTOMONAS	--	-	--	-	*	0	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)												
.CYANOPHYCEAE												
..CHROOCOCCALES												
...CHROOCOCCACEAE												
....ANACYSTIS	--	-	--	-	30	3	--	-	30	11	15	3
..HORMOGONALES												
...NOSTOCACEAE												
....ANABAENA	--	-	--	-	--	-	--	-	--	-	--	-
...OSCILLATORIACEAE												
....OSCILLATORIA	320	3	--	-	--	-	--	-	--	-	--	-
...RIVULARIACEAE												
....RAPHIDIOPSIS	--	-	--	-	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2%

06734900 OLYMPUS TUNNEL AT LAKE ESTES, CO--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1978 TO SEPTEMBER 1979

DATE	OCT 13,78		NOV 29,78		DEC 20,78		JAN 25,79		FEB 22,79		MAR 28,79	
TIME	1015		1000		1030		1045		1000		0920	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
EUGLENOPHYTA (EUGLENOIDS)												
.EUGLENOPHYCEAE												
..EUGLENALES												
...EUGLENACEAE												
....TRACHELOMONAS	--	-	--	-	15	1	--	-	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)												
.DINOPHYCEAE												
..GYMNODINIALES												
...GYMNODINIACEAE												
....GYMNODINIUM	--	-	--	-	10	1	--	-	--	-	--	-
..PERIDINIALES												
...PERIDINIACEAE												
....PERIDINIUM	--	-	--	-	*	0	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

06734900 OLYMPUS TUNNEL AT LAKE ESTES, CO--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1978 TO SEPTEMBER 1979

DATE	APR 18,79	MAY 10,79	JUN 7,79	JUL 12,79	AUG 23,79	SEP 19,79
TIME	1350	1010	0945	1300	0000	1010
TOTAL CELLS/ML	2300	2800	120	620	3100	6400
DIVERSITY: DIVISION	1.0	1.0	0.8	1.0	1.4	0.8
.CLASS	1.0	1.0	0.8	1.0	1.4	0.8
..ORDER	1.4	1.4	1.4	1.7	2.1	1.4
...FAMILY	1.5	1.5	2.3	2.2	2.6	1.4
....GENUS	1.7	1.6	2.3	2.3	2.8	1.4

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)												
.CHLOROPHYCEAE												
..CHLOROCOCCALES												
...CHARACIACEAE												
....SCHROEDERIA	--	-	--	-	--	-	--	-	*	0	*	0
...MICRACTINIACEAE												
....GOLENKINIA	--	-	--	-	--	-	26	4	--	-	--	-
....MICRACTINIUM	130	6	--	-	--	-	--	-	--	-	--	-
...OOCYSTACEAE												
....ANKISTRODESMUS	33	1	38	1	--	-	--	-	39	1	43	1
....CHODATELLA	66	3	--	-	26#	22	26	4	26	1	--	-
....CLOSTERIOPSIS	--	-	--	-	--	-	--	-	--	-	--	-
....KIRCHNERIELLA	--	-	--	-	--	-	--	-	--	-	*	0
....OOCYSTIS	--	-	19	1	--	-	--	-	--	-	--	-
...SCENEDESMACEAE												
....SCENEDESMUS	--	-	38	1	--	-	26	4	--	-	--	-
....TETRASTRUM	--	-	--	-	--	-	51	8	--	-	--	-
..TETRASPORALES												
...PALMELLACEAE												
....SPHAEROCYSTIS	--	-	--	-	--	-	--	-	--	-	140	2
..VOLVOCALES												
...CHLAMYDOMONADACEAE	--	-	--	-	--	-	--	-	--	-	--	-
....CHLAMYDOMONAS	--	-	--	-	--	-	39	6	26	1	*	0
...VOLVOCACEAE												
....EUDORINA	--	-	--	-	--	-	--	-	410	13	--	-
....PANDORINA	--	-	--	-	--	-	--	-	--	-	--	-
CHRYSOPHYTA												
.BACILLARIOPHYCEAE												
..CENTRALES												
...COSCINODISCACEAE												
....CYCLOTELLA	1600#	70	1700#	62	--	-	--	-	52	2	--	-
....MELOSIRA	66	3	--	-	--	-	350#	56	760#	24	860	14
....STEPHANODISCUS	--	-	--	-	26#	22	--	-	--	-	--	-
..PENNALES												
...ACHNANTHACEAE												
....ACHNANTHES	--	-	--	-	26#	22	--	-	--	-	--	-
....COCCONEIS	--	-	--	-	--	-	--	-	--	-	--	-
...CYMBELLACEAE												
....CYMBELLA	--	-	--	-	--	-	--	-	--	-	--	-
...DIATOMACEAE												
....DIATOMA	--	-	--	-	--	-	13	2	--	-	--	-
...FRAGILARIACEAE												
....ASTERIONELLA	--	-	--	-	--	-	51	8	990#	32	4300#	67
....FRAGILARIA	33	1	19	1	13	11	--	-	--	-	--	-
....HANNAEA	--	-	--	-	--	-	--	-	--	-	--	-
....SYNEDRA	--	-	19	1	--	-	--	-	--	-	*	0
...NAVICULACEAE												
....NAVICULA	--	-	--	-	--	-	--	-	--	-	--	-
...NITZSCHIACEAE												
....NITZSCHIA	66	3	56	2	26#	22	26	4	77	2	--	-
...TABELLARIACEAE												
....TABELLARIA	--	-	110	4	--	-	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)												
.CRYPTOPHYCEAE												
..CRYPTOMONADALES												
...CRYPTOCHRYSIDACEAE												
....CHROOMONAS	--	-	--	-	--	-	13	2	--	-	--	-
...CRYPTOMONADACEAE												
....CRYPTOMONAS	--	-	--	-	--	-	--	-	*	0	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)												
.CYANOPHYCEAE												
..CHROOCOCCALES												
...CHROOCOCCACEAE												
....ANACYSTIS	200	9	750#	27	--	-	--	-	*	0	--	-
..HORMOGONALES												
...NOSTOCACEAE												
....ANABAENA	--	-	--	-	--	-	--	-	150	5	990#	16
...OSCILLATORIACEAE												
....OSCILLATORIA	--	-	--	-	--	-	--	-	360	11	--	-
...RIVULARIACEAE												
....RAPHIDIOPSIS	120	5	--	-	--	-	--	-	210	7	--	-

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2%

06734900 OLYMPUS TUNNEL AT LAKE ESTES, CO--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1978 TO SEPTEMBER 1979

(CONTINUED)

DATE	APR 18,79		MAY 10,79		JUN 7,79		JUL 12,79		AUG 23,79		SEP 19,79	
TIME	1350		1010		0945		1300		0000		1010	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
EUGLENOPHYTA (EUGLENOIDS)												
.EUGLENOPHYCEAE												
..EUGLENALES												
...EUGLENACEAE												
....TRACHELOMONAS	--	-	--	-	--	-	--	-	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)												
.DINOPHYCEAE												
..GYMNODINIALES												
...GYMNODINIACEAE												
....GYMNODINIUM	--	-	--	-	--	-	--	-	--	-	--	-
..PERIDINIALES												
...PERIDINIACEAE												
....PERIDINIUM	--	-	--	-	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
      * - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2%

06735500 BIG THOMPSON RIVER NEAR ESTES PARK, CO

LOCATION.--Lat 40°22'35", long 105°29'06", in NE¼NE¼ sec.29, T.5 N., R.72 W., Larimer County, Hydrologic Unit 10190006, on right bank 100 ft (30 m) upstream from Dry Gulch, 600 ft (180 m) downstream from Olympus Dam, and 2.0 mi (3.2 km) east of Estes Park.

DRAINAGE AREA.--155 mi² (401 km²), revised. Area at site used Jan. 29, 1934, to Mar. 21, 1951, 162 mi² (420 km²), revised.

PERIOD OF RECORD.--July 1930 to current year. Prior to October 1933, monthly discharges only, published in WSP 1310. Published as Thompson River near Estes Park 1934-47.

REVISED RECORDS.--WSP 1310: 1931. WSP 1730: Drainage area.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 7,422.5 ft (2,262.38 m) National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation). Prior to Jan. 29, 1934, nonrecording gage on highway bridge 1.5 mi (2.4 km) downstream at different datum. Jan. 29, 1934, to Mar. 21, 1951, water-stage recorder at site 0.4 mi (0.6 km) downstream at datum 10.5 ft (3.20 m) lower.

REMARKS.--Records excellent. Low flow regulated by Lake Estes since Nov. 30, 1948. Diversion from Colorado River basin to Big Thompson River basin above station through Alva B. Adams tunnel began Aug. 10, 1947 (see station 09013000 in Volume 2 for diversion during current year); since Apr. 15, 1953, this imported water has been diverted from Lake Estes through Olympus tunnel bypassing this station. Since May 17, 1955, part of the natural flow of Big Thompson River (78,510 acre-ft or 96.8 hm³ during current year) has also been diverted through Olympus tunnel and returned to the river below the station at mouth of canyon, near Drake. Small power developments and small diversions for irrigation and municipal use above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 2,800 ft³/s (79.3 m³/s) June 20, 1933, gage height, 4.0 ft (1.22 m), site and datum then in use, from rating curve extended above 460 ft³/s (13 m³/s); no flow Aug. 1 to Sept. 30, 1976 (all flow into Lake Estes diverted through Olympus tunnel after flood of July 31, 1976).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 706 ft³/s (20.0 m³/s) at 0400 June 15, gage height, 4.78 ft (1.457 m); minimum daily, 1.8 ft³/s (0.051 m³/s) Dec. 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	24	11	2.0	2.0	2.0	17	49	49	194	124	77
2	30	25	11	2.0	2.0	2.0	17	49	49	170	125	77
3	30	25	11	2.0	2.0	2.0	17	49	50	125	125	74
4	29	24	11	2.0	2.0	2.0	16	49	50	124	125	26
5	28	24	10	2.0	2.0	2.0	14	49	56	126	125	26
6	29	20	10	2.0	2.0	2.0	14	49	163	126	125	26
7	28	21	10	2.0	2.0	2.0	14	50	319	126	125	26
8	28	22	10	2.0	2.0	2.0	13	50	143	125	125	26
9	28	9.3	10	2.0	2.0	2.0	14	49	124	126	126	26
10	26	9.3	10	2.0	2.0	2.0	18	50	124	125	126	26
11	24	9.3	10	2.0	2.0	2.8	24	51	124	125	126	26
12	22	9.8	10	2.0	2.0	2.2	28	51	126	125	126	24
13	23	9.3	10	2.0	2.0	3.7	28	51	285	125	126	24
14	23	9.8	6.3	2.0	2.0	4.1	26	50	514	124	128	24
15	22	9.8	2.0	2.0	2.0	4.4	26	50	574	125	126	24
16	22	10	1.8	2.0	2.0	5.5	33	52	357	124	98	24
17	21	10	2.2	2.0	2.0	18	44	52	392	123	102	24
18	22	10	2.2	2.0	2.0	17	50	52	387	125	101	24
19	23	10	2.2	2.0	2.0	18	51	52	198	125	100	24
20	22	10	2.2	2.0	2.0	18	51	52	124	125	101	24
21	22	10	2.2	2.0	2.0	17	51	52	125	124	102	24
22	48	10	2.2	2.0	2.0	11	51	52	125	124	102	24
23	33	10	2.2	2.0	2.0	10	52	51	151	125	104	24
24	36	10	2.2	2.0	2.0	10	50	50	187	125	104	25
25	35	11	2.2	2.0	2.0	11	48	49	197	125	102	24
26	28	11	2.2	2.0	2.0	11	49	48	172	126	102	24
27	30	11	2.2	2.0	2.0	10	49	74	136	125	102	24
28	28	11	2.0	2.0	2.0	11	48	184	123	125	102	25
29	28	11	2.0	2.0	---	11	47	336	235	125	105	25
30	26	11	2.0	2.0	---	14	49	253	227	125	83	25
31	25	---	2.0	2.0	---	17	---	52	---	125	78	---
TOTAL	850	407.6	176.3	62.0	56.0	246.7	1009	2207	5886	3987	3471	896
MEAN	27.4	13.6	5.69	2.00	2.00	7.96	33.6	71.2	196	129	112	29.9
MAX	48	25	11	2.0	2.0	18	52	336	574	194	128	77
MIN	21	9.3	1.8	2.0	2.0	2.0	13	48	49	123	78	24
AC-FT	1690	808	350	123	111	489	2000	4380	11670	7910	6880	1780

CAL YR 1978 TOTAL 24307.4 MEAN 66.6 MAX 651 MIN 1.0 AC-FT 48210
WTR YR 1979 TOTAL 19254.6 MEAN 52.8 MAX 574 MIN 1.8 AC-FT 38190

NOTE.--NO GAGE-HEIGHT RECORD DEC. 30 TO MAR. 10.

06736700 BIG THOMPSON RIVER ABOVE DILLE TUNNEL, NEAR DRAKE, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 40°25'06", long 105°14'36", in NE¼NW¼ sec.9, T.5 N., R.70 W., Larimer County, Hydrologic Unit 10190006, 100 ft (30 m) upstream from diversion dam at entrance to Dille Tunnel and 5.2 mi (8.4 km) east of Drake.

DRAINAGE AREA.--304 mi² (787 km²).

PERIOD OF RECORD.--September 1970 to current year.

REMARKS.--Field data collected prior to 1974 water year available in district office. Records of discharge are estimated values.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)
OCT								
13...	1220	E30	60	7.9	8.0	9.4	K1000	K17
NOV								
28...	0850	E30	65	7.7	.0	11.7	K940	<1
DEC								
20...	1230	E15	70	7.6	.0	15.4	84	K2
JAN								
25...	1215	E8.0	70	7.4	.0	11.8	82	K4
FEB								
22...	1215	E9.0	85	7.5	.0	11.1	--	K10
MAR								
28...	1140	E25	80	7.4	6.5	9.5	K95	<1
APR								
18...	1535	E100	80	7.1	14.5	8.0	K5	<1
MAY								
10...	0910	E230	80	7.7	2.5	11.0	380	240
JUN								
07...	1150	730	100	7.5	9.0	9.0	120	K55
JUL								
12...	1410	232	33	7.2	19.5	7.2	24	K7
AUG								
23...	1200	165	41	7.4	15.0	8.0	K480	30
SEP								
19...	1320	50	54	8.3	17.0	7.7	120	K1

E ESTIMATED.

K BASED ON NON-IDEAL COLONY COUNT.

06737500 HORSETOOTH RESERVOIR NEAR FORT COLLINS, CO

LOCATION.--Lat 40°36'00", long 105°10'06", in NW¼SW¼ sec.6, T.7 N., R.69 W., Larimer County, Hydrologic Unit 10190007, on right bank near abutment of Horsetooth Dam on tributaries to Cache la Poudre River, 4.8 mi (7.7 km) west of city hall in Fort Collins. Water-quality sampling site in middle of reservoir at Soldier Canyon Dam.

WATER-CONTENTS RECORDS

PERIOD OF RECORD.--April 1951 to current year.

GAGE.--Nonrecording gage read at irregular intervals from 1 to 10 days. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Water and Power Resources Service); gage readings have been reduced to elevations NGVD.

REMARKS.--Reservoir is formed by earth and rockfill dike and dams closing openings in subsequent valleys between hogbacks; storage began Jan. 10, 1951; dams completed July 21, 1949. Usable capacity, 143,500 acre-ft (177 hm³) above elevations 5,320 ft (1,621.5 m), invert of channel from Spring Canyon Dam, 5,310 ft (1,618.5 m), invert of channel from Dixon Canyon Dam, 5,270 ft (1,606.3 m), trashrack sill of outlet at Soldier Canyon Dam, and below maximum water-surface elevation, 5,430 ft (1,655.1 m), 6 ft (1.8 m) below crest of Satanka Dike. Dead storage, 8,270 acre-ft (10.2 hm³). Figures given represent usable contents. Water is diverted from Colorado River basin through Alva B. Adams tunnel for supplemental irrigation supply to Cache la Poudre River.

COOPERATION.--Records furnished by Water and Power Resources Service.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 141,600 acre-ft (175 hm³) July 2, 1970, elevation, 5,429.02 ft (1,654.765 m); minimum observed, 9 acre-ft (11,100 m³) Nov. 16-30, 1977, elevation, 5,270.25 ft (1,606.372 m); no storage prior to Apr. 18, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 140,400 acre-ft (173 hm³) June 22, elevation, 5,428.38 ft (1,654.570 m); minimum observed, 51,370 acre-ft (63.3 hm³) Nov. 17, 18, elevation, 5,369.12 ft (1,636.508 m).

MONTHEND ELEVATION IN FEET NGVD AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	5,371.15	53,730	-
Oct. 31	5,369.42	51,710	-2,020
Nov. 30	5,372.08	54,830	+3,120
Dec. 31	5,378.42	62,610	+7,780
CAL YR 1978			+51,400
Jan. 31	5,387.50	74,540	+11,930
Feb. 28	5,394.38	84,220	+9,680
Mar. 31	5,407.90	104,900	+20,680
Apr. 30	5,413.28	113,700	+8,800
May 31	5,423.72	131,900	+18,200
June 30	5,428.22	140,100	+8,200
July 31	5,415.00	116,600	-23,500
Aug. 31	5,404.70	99,780	-16,820
Sept. 30	5,401.80	95,280	-4,500
WTR YR 1979			+41,550

06737500 HORSETOOTH RESERVOIR NEAR FORT COLLINS, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--September 1969 to current year.

REMARKS.--Samples collected from surface, middle, and bottom depths in middle of reservoir at Soldier Canyon Dam. Reservoir storage represents usable contents.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	SAMPLING DEPTH (FT)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)
OCT				
25...	0950	2.0	12.5	7.1
25...	0951	5.0	12.5	7.0
25...	0952	10	12.5	6.9
25...	0953	20	12.5	6.9
25...	0954	25	12.5	7.0
25...	0955	30	12.5	7.0
25...	0956	40	12.5	6.9
25...	0957	50	12.5	7.0
25...	0958	60	12.5	6.8
25...	0959	70	12.5	6.8
25...	1000	75	12.5	6.8
25...	1001	80	12.5	6.7
25...	1002	90	12.5	6.7
25...	1003	100	12.5	6.7
NOV				
21...	1445	2.0	8.0	8.2
21...	1446	5.0	8.0	8.2
21...	1447	10	8.0	8.2
21...	1448	20	8.0	8.2
21...	1449	25	8.0	8.2
21...	1450	30	8.0	8.2

DATE	TIME	SAMPLING DEPTH (FT)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)
NOV				
21...	1451	40	8.0	8.2
21...	1452	50	8.0	8.2
21...	1453	60	8.0	8.2
21...	1454	70	8.0	8.2
21...	1455	75	8.0	9.1
21...	1456	80	8.0	8.2
21...	1457	90	8.0	8.2
21...	1458	100	8.0	8.2
21...	1459	110	7.5	8.2
APR				
16...	1350	.1	6.5	11.8
16...	1351	5.0	6.5	11.8
16...	1352	10	6.0	11.6
16...	1353	20	5.5	11.4
16...	1354	25	5.0	11.4
16...	1355	30	5.0	11.1
16...	1356	40	4.5	11.0
16...	1357	50	4.0	11.0
16...	1358	60	4.0	11.0
16...	1359	70	4.0	10.8

DATE	TIME	SAMPLING DEPTH (FT)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)
APR				
16...	1400	75	4.0	10.8
16...	1401	80	4.0	10.8
16...	1402	90	4.0	10.8
16...	1403	100	4.0	10.8
16...	1404	110	4.0	10.8
MAY				
15...	1000	.1	10.5	9.0
15...	1001	5.0	9.5	9.1
15...	1002	10	8.0	9.2
15...	1003	20	7.0	9.0
15...	1004	25	6.5	9.2
15...	1005	30	6.5	9.2
15...	1006	40	6.5	9.4
15...	1007	50	6.0	9.4
15...	1008	60	5.5	9.4
15...	1009	70	5.0	9.7
15...	1010	75	5.0	9.6
15...	1011	80	5.0	9.7
15...	1012	90	5.0	9.4
15...	1013	100	5.0	9.6
15...	1014	110	4.5	9.6
15...	1015	120	4.5	7.5

DATE	TIME	SAMPLING DEPTH (FT)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)
JUN				
25...	1050	.1	18.5	7.6
25...	1051	5.0	16.5	7.4
25...	1052	10	14.5	7.3
25...	1053	20	12.5	7.7
25...	1054	25	11.5	7.7
25...	1055	30	10.5	7.9
25...	1056	40	9.0	8.3
25...	1057	50	7.0	8.6
25...	1058	60	6.0	8.8
25...	1059	70	5.5	8.8
25...	1100	75	5.5	8.8
25...	1101	80	5.5	8.8
25...	1102	90	5.5	8.8
25...	1103	100	5.0	8.8
25...	1104	110	5.0	8.7
25...	1105	120	5.0	8.7
JUL				
31...	1048	.1	22.0	6.3
31...	1049	5.0	19.5	6.8

06737500 HORSETOOTH RESERVOIR NEAR FORT COLLINS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	SAMP- LING DEPTH (FT)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
JUL				
31...	1050	10	19.5	6.8
31...	1051	20	17.5	5.9
31...	1052	25	16.0	5.7
31...	1053	30	13.5	5.9
31...	1054	40	9.5	7.2
31...	1055	50	7.5	7.9
31...	1056	60	6.0	8.2
31...	1057	70	5.5	8.2
31...	1058	75	5.5	8.1
31...	1059	80	5.5	8.1
31...	1100	90	5.5	8.2
31...	1101	100	5.0	8.3
31...	1102	110	4.5	8.0
31...	1103	120	4.5	7.8
AUG				
20...	1350	.1	19.0	7.0
20...	1351	5.0	19.0	7.0
20...	1352	10	19.0	6.9
20...	1353	20	19.0	6.9
20...	1354	25	17.5	5.6
20...	1355	30	16.5	5.3

DATE	TIME	SAMP- LING DEPTH (FT)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
AUG				
20...	1356	40	10.5	7.1
20...	1357	50	9.0	7.6
20...	1358	60	8.5	7.7
20...	1359	70	8.0	7.7
20...	1400	75	8.0	7.7
20...	1401	80	8.0	7.8
20...	1402	90	7.5	7.8
20...	1403	100	7.5	7.8
20...	1404	110	7.0	1.0
SEP				
26...	1015	.1	18.0	7.3
26...	1016	5.0	17.0	7.3
26...	1017	10	17.0	7.3
26...	1018	20	17.0	7.3
26...	1019	25	16.0	6.8
26...	1020	30	16.0	6.6
26...	1021	40	13.0	6.2
26...	1022	50	10.0	6.2
26...	1023	60	9.0	6.8
26...	1024	70	8.0	7.1

DATE	TIME	SAMP- LING DEPTH (FT)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
SEP				
26...	1025	75	8.0	7.2
26...	1026	80	8.0	7.2
26...	1027	90	8.0	7.2

DATE	TIME	SAMP- LING DEPTH (FT)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
SEP				
26...	1028	100	7.5	7.2
26...	1029	110	7.0	7.0

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TRANS- PAR- ENCY (SECCHI DISK) (IN)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, (COLS. PER 100 ML)
OCT								
25...	0950	2.0	70	7.6	--	160	<1	--
25...	0958	60	65	7.6	--	180	<1	--
25...	1003	100	65	7.6	--	150	<1	--
NOV								
21...	1645	2.0	70	7.6	72	61	<1	--
APR								
16...	1350	.1	70	8.1	82	--	<1	<1
MAY								
15...	1000	.1	70	7.6	100	--	<1	<1
JUN								
25...	1050	.1	75	7.6	86	--	<1	<1
JUL								
31...	1048	.1	90	7.7	50	--	<1	<1
AUG								
20...	1350	.1	78	7.4	39	--	K3	--
SEP								
26...	1015	.1	80	7.4	--	K7	K1	--

K BASED ON NON-IDEAL COLONY COUNT.

06737500 HORSETOOTH RESERVOIR NEAR FORT COLLINS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHYTO-PLANK-TON, TOTAL (CELLS PER ML)
OCT								
25...	48	.07	.17	.00	.17	.01	.020	14
25...	47	.06	.17	.00	.17	.01	.010	14
25...	47	.06	.17	.00	.17	.01	.020	29
NOV								
21...	55	.07	.18	.00	.18	.01	.030	0
APR								
16...	45	.06	.11	.01	.12	.01	.010	1700
MAY								
15...	40	.05	.13	.00	.13	.02	.020	450
JUN								
25...	54	.07	.09	.01	.10	.02	.000	13
JUL								
31...	54	.07	.12	.00	.12	.01	.020	0
AUG								
20...	59	.08	.14	.01	.15	.02	.010	320
SEP								
26...	57	.08	.12	.01	.13	.03	.000	580

06737500 HORSETOOTH RESERVOIR NEAR FORT COLLINS, CO--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1978 TO SEPTEMBER 1979

DATE TIME	OCT 25,78 0950	OCT 25,78 0955	OCT 25,78 1000	NOV 21,78 1445	APR 16,79 1350
TOTAL CELLS/ML	14	14	29	0	1700
DIVERSITY: DIVISION	0.0	0.0	0.0	0.0	1.2
.CLASS	0.0	0.0	0.0	0.0	1.2
..ORDER	0.0	0.0	0.0	0.0	1.3
...FAMILY	0.0	0.0	0.0	0.0	1.3
....GENUS	0.0	0.0	0.0	0.0	1.3

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)										
.CHLOROPHYCEAE										
..CHLOROCOCCALES										
...CHARACIACEAE										
....SCHROEDERIA	14#	100	14#	100	29#	100	--	-	--	-
...MICRACTINIACEAE										
....GOLENKINIA	--	-	--	-	--	-	--	-	22	1
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	--	-	--	-	--	-	--	-	510#	29
...VOLVOCACEAE										
....PANDORINA	--	-	--	-	--	-	--	-	--	-
CHRYSOPHYTA										
.BACILLARIOPHYCEAE										
..CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	--	-	--	-	--	-	--	-	1100#	63
..PENNALES										
...NITZSCHIACEAE										
....NITZSCHIA	--	-	--	-	--	-	--	-	--	-
.CHRYSOPHYCEAE										
..CHRYSOMONADALES										
...OCHROMONADACEAE										
....OCHROMONAS	--	-	--	-	--	-	--	-	22	1
CRYPTOPHYTA (CRYPTOMONADS)										
.CRYPTOPHYCEAE										
..CRYPTOMONADALES										
...CRYPTOCHRYSIDACEAE										
....CHROOMONAS	--	-	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)										
.CYANOPHYCEAE										
..CHROOCOCCALES										
...CHROOCOCCACEAE										
....AGMENELLUM	--	-	--	-	--	-	--	-	--	-
....ANACYSTIS	--	-	--	-	--	-	--	-	88	5
..HORMOGONALES										
...OSCILLATORIACEAE										
....OSCILLATORIA	--	-	--	-	--	-	--	-	--	-
...RIVULARIACEAE										
....RAPHIDIOPSIS	--	-	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

06737500 HORSETOOTH RESERVOIR NEAR FORT COLLINS, CO--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1978 TO SEPTEMBER 1979

DATE	MAY 15,79	JUN 25,79	JUL 31,79	AUG 20,79	SEP 26,79
TIME	1000	1050	1040	1350	1015
TOTAL CELLS/ML	450	13	0	320	580
DIVERSITY: DIVISION	0.4	0.0	0.0	0.0	0.8
.CLASS	0.4	0.0	0.0	0.0	0.8
..ORDER	0.4	0.0	0.0	0.0	0.9
...FAMILY	0.4	0.0	0.0	0.9	0.9
....GENUS	0.4	0.0	0.0	0.9	1.4

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)										
.CHLOROPHYCEAE										
..CHLOROCOCCALES										
...CHARACIACEAE										
....SCHROEDERIA	--	-	13#	100	--	-	--	-	13	2
...MICRACTINIACEAE										
....GOLENKINIA	--	-	--	-	--	-	--	-	--	-
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	--	-	--	-	--	-	--	-	39	7
...VOLVOCACEAE										
....PANDORINA	410#	91	--	-	--	-	--	-	--	-
CHRYSOPHYTA										
.BACILLARIOPHYCEAE										
..CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	--	-	--	-	--	-	--	-	26	4
..PENNALES										
...NITZSCHIACEAE										
....NITZSCHIA	--	-	--	-	--	-	--	-	13	2
.CHRYSOPHYCEAE										
..CHRYSOMONADALES										
...OCHROMONADACEAE										
....OCHROMONAS	--	-	--	-	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)										
.CRYPTOPHYCEAE										
..CRYPTOMONADALES										
...CRYPTOCHRYSIDACEAE										
....CHROOMONAS	39	9	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)										
.CYANOPHYCEAE										
..CHROOCOCCALES										
...CHROOCOCCACEAE										
....AGMENELLUM	--	-	--	-	--	-	--	-	410#	71
....ANACYSTIS	--	-	--	-	--	-	--	-	77	13
..HORMOGONALES										
...OSCILLATORIACEAE										
....OSCILLATORIA	--	-	--	-	--	-	210#	64	--	-
...RIVULARIACEAE										
....RAPHIDIOPSIS	--	-	--	-	--	-	120#	36	--	-

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2%

06738000 BIG THOMPSON RIVER AT MOUTH OF CANYON, NEAR DRAKE, CO

LOCATION.--Lat 40°25'18", long 105°13'34", in SW¼SW¼ sec.3, T.5 N., R.70 W., Larimer County, Hydrologic Unit 10190006, on right bank at mouth of canyon, 400 ft (120 m) upstream from Handy Ditch diversion dam, and 6.0 mi (9.7 km) east of Drake.

DRAINAGE AREA.--305 mi² (790 km²).

PERIOD OF RECORD.--August 1887 to September 1892, May 1895 to September 1903, October 1926 to September 1933 (no winter records prior to October 1932, except water years 1927-28), April 1938 to September 1949, March 1951 to current year. Monthly discharge only for some periods, published in WSP 1310. Published as Big Thompson Creek at Arkins 1887-92, Big Thompson Creek near Arkins 1901-3, and as Thompson River at mouth of canyon, near Drake 1927-30, 1938-47.

REVISED RECORDS.--WSP 1310: 1891, 1927. WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,297.47 ft (1,614.699 m), National Geodetic Vertical Datum of 1929 (levels by Water and Power Resources Service). See WSP 1710 or 1730 for history of changes prior to Oct. 1, 1949.

REMARKS.--Records good except those for period of no gage-height record, which are poor. Diversions above station for irrigation. Diversions from Colorado River basin to Big Thompson River basin above station through Alva B. Adams tunnel began Aug. 10, 1947 (see station 09013000 in Volume 2 for diversion during current year); since Apr. 15, 1953, this imported water has been diverted from Lake Estes through Olympus tunnel bypassing this station. Part of the natural flow of the Big Thompson River has also been diverted through Olympus tunnel since May 17, 1955, 278,700 acre-ft (344 hm³) during current year, and Dille tunnel since Apr. 20, 1959, 21,260 acre-ft (26.2 hm³) during current year, and returned to the river just below this station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,200 ft³/s (884 m³/s) July 31, 1976, gage height, 19.86 ft (6.053 m), from floodmarks, from slope-area measurements of peak flow; no flow at times in 1976 and 1979 (all flow above station diverted through Olympus and Dille tunnels after flood of July 31, 1976).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,450 ft³/s (41.1 m³/s) at 0800 June 15, gage height, 8.68 ft (2.658 m); no flow Aug. 29 to Sept. 30 (all flow above station diverted through Olympus and Dille tunnels).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	36	20	4.5	7.0	8.0	35	47	71	380	76	.00
2	43	30	19	6.0	6.5	7.5	36	157	62	350	28	.00
3	42	17	17	7.0	6.5	7.0	38	105	52	286	21	.00
4	41	15	19	7.5	6.5	6.5	36	51	47	302	18	.00
5	40	17	19	8.0	7.5	7.0	35	117	43	290	18	.00
6	41	31	17	7.5	7.5	7.5	42	217	101	282	18	.00
7	41	30	15	6.5	7.0	7.5	48	242	470	270	6.3	.00
8	40	32	14	7.5	6.5	7.0	48	139	540	262	.40	.00
9	40	28	16	8.5	7.0	6.5	49	125	754	258	.40	.00
10	39	23	19	7.0	7.0	7.0	53	162	620	250	.40	.00
11	36	15	20	7.5	7.0	8.0	74	183	585	216	.40	.00
12	35	17	21	8.5	7.0	7.5	64	206	559	186	.40	.00
13	34	18	19	7.5	7.0	8.0	63	216	700	220	.40	.00
14	34	18	16	8.5	7.0	8.5	63	209	1080	234	.40	.00
15	34	18	13	8.5	6.5	9.0	64	202	1200	230	.40	.00
16	34	18	11	8.5	6.0	11	74	195	827	226	.40	.00
17	33	19	12	7.5	5.5	18	92	189	827	238	.40	.00
18	33	19	14	7.0	6.0	24	102	113	836	246	.40	.00
19	34	20	12	6.0	6.5	24	100	77	559	223	.40	.00
20	34	19	11	7.0	6.0	25	96	66	355	223	.40	.00
21	34	19	10	7.0	5.5	25	94	66	342	223	.40	.00
22	86	18	11	6.5	6.0	22	96	70	328	212	.40	.00
23	56	18	11	5.5	5.5	18	98	73	342	209	.40	.00
24	52	19	11	6.5	6.0	19	102	66	385	212	.30	.00
25	49	20	12	6.5	7.0	21	104	80	395	209	.30	.00
26	42	19	11	5.5	8.0	22	73	129	360	202	.20	.00
27	42	18	11	5.5	8.0	22	85	120	310	202	.20	.00
28	40	19	12	5.5	7.0	29	96	212	294	198	.20	.00
29	39	20	11	5.0	---	30	92	592	395	195	.00	.00
30	38	20	9.0	5.0	---	29	73	620	416	192	.00	.00
31	37	---	6.5	6.0	---	34	---	168	---	189	.00	---
TOTAL	1269	630	439.5	211.0	186.5	485.5	2125	5214	13855	7415	192.90	.00
MEAN	40.9	21.0	14.2	6.81	6.66	15.7	70.8	168	462	239	6.22	.000
MAX	86	36	21	8.5	8.0	34	104	620	1200	380	76	.00
MIN	33	15	6.5	4.5	5.5	6.5	35	47	43	186	.00	.00
AC-FT	2520	1250	872	419	370	963	4210	10340	27480	14710	383	.00

CAL YR 1978 TOTAL 41639.50 MEAN 114 MAX 1140 MIN 3.5 AC-FT 82590
WTR YR 1979 TOTAL 32023.40 MEAN 87.7 MAX 1200 MIN .00 AC-FT 63520

NOTE.--NO GAGE-HEIGHT RECORD DEC. 3 TO MAR. 27, AUG. 8 TO SEPT. 30.

06742500 CARTER LAKE NEAR BERTHOUD, CO

LOCATION.--Lat 40°19'28", long 105°12'41", in SE¼ sec.10, T.4 N., R.70 W., Larimer County, Hydrologic Unit 10190006, in hoist house 293 ft (89 m) from right abutment of Carter Lake Dam on Dry Creek, 7.0 mi (11.3 km) west of Berthoud, and 8.9 mi (14.3 km) upstream from mouth. Water-quality sampling site near center of reservoir.

WATER-CONTENTS RECORDS

PERIOD OF RECORD.--March 1954 to current year.

GAGE.--Nonrecording gage read at irregular intervals from 1 to 13 days. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Water and Power Resources Service); gage readings have been reduced to elevations NGVD.

REMARKS.--Reservoir is formed by an earth and rockfill dam and dikes enlarging the natural basin of Carter Lake. Storage began in February 1954. Usable capacity, 113,500 acre-ft (140 hm³) between elevations 5,618.00 ft (1,712.336 m), trashrack sill at outlet, and 5,763.00 ft (1,756.562 m), maximum water surface, 6 ft (1.8 m) below crest of dam. Dead storage, 3,310 acre-ft (4.08 hm³). Figures given represent usable contents. Water diverted from Colorado River basin through Alva B. Adams tunnel is pumped from Flatiron Reservoir into Carter Lake for supplemental irrigation supply to Little Thompson River and St. Vrain and Boulder Creek basins. Water above elevation 5,620 ft (1,713.0 m) may be released for return to Flatiron Reservoir where pump turbines can operate in reverse to generate power and water can be used for irrigation in Big Thompson or Cache la Poudre River basins.

COOPERATION.--Records furnished by Water and Power Resources Service.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 109,100 acre-ft (135 hm³) Apr. 27-29, 1971, elevation, 5,759.12 ft (1,755.380 m); minimum observed since appreciable storage was attained, 960 acre-ft (1.18 hm³) Oct. 25, 1954, elevation, 5,621.40 ft (1,713.403 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 108,800 acre-ft (134 hm³) June 11, 14, elevation, 5,758.90 ft (1,755.313 m); minimum observed, 38,300 acre-ft (47.2 hm³) Oct. 11, elevation, 5,687.40 ft (1,733.520 m).

MONTHEND ELEVATION IN FEET NGVD AT CONTENTS AT 0800, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	5,690.08	40,480	-
Oct. 31	5,700.50	49,340	+8,860
Nov. 30	5,721.12	68,560	+19,220
Dec. 31	5,734.00	81,620	+13,060
CAL YR 1978			+36,690
Jan. 31	5,742.28	90,370	+8,750
Feb. 28	5,750.14	98,950	+8,580
Mar. 31	5,749.98	98,770	-180
Apr. 30	5,756.04	105,600	+6,830
May 31	5,758.62	108,500	+2,900
June 30	5,758.22	108,000	-500
July 31	5,738.20	86,020	-21,980
Aug. 31	5,724.18	71,590	-14,430
Sept. 30	5,715.88	63,470	-8,120
WTR YR 1979			+22,990

06742500 CARTER LAKE NEAR BERTHOUD, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--February 1970 to current year.

REMARKS.--Samples collected at surface, middle, and bottom depths near center of reservoir. Reservoir storage represents usable contents.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	SAMPLING DEPTH (FT)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)
OCT				
24...	1425	2.0	10.5	7.5
24...	1426	5.0	11.5	7.6
24...	1427	10	11.5	7.6
24...	1428	20	11.0	7.6
24...	1429	25	11.0	7.4
24...	1430	30	11.0	7.2
24...	1431	40	11.0	7.0
24...	1432	50	11.0	7.0
24...	1433	60	11.0	6.9
24...	1434	70	11.0	6.9
24...	1435	75	11.0	6.9
24...	1436	80	10.5	7.0
NOV				
21...	1110	2.0	7.0	8.5
21...	1111	5.0	7.0	8.5
21...	1112	10	7.0	8.5
21...	1113	20	7.0	8.5
21...	1114	25	7.0	8.5
21...	1115	30	7.0	8.5
21...	1116	40	7.0	8.5
21...	1117	50	7.0	8.4
NOV				
21...	1118	60	7.0	8.4
21...	1119	70	7.0	8.4
21...	1120	75	7.0	8.4
21...	1121	80	7.0	8.4
21...	1122	90	7.0	8.4
21...	1123	100	7.0	8.2
21...	1124	110	7.0	8.4
APR				
16...	1035	.1	5.5	11.2
16...	1036	5.0	4.5	10.8
16...	1037	10	4.0	10.8
16...	1038	20	4.0	10.8
16...	1039	25	4.0	10.8
16...	1040	30	4.0	10.8
16...	1041	40	4.0	10.6
16...	1042	50	4.0	10.6
16...	1043	60	4.0	10.2
16...	1044	70	4.0	10.4
16...	1045	75	4.0	10.4
16...	1046	80	4.0	10.4
APR				
16...	1047	90	4.0	10.4
16...	1048	100	4.0	10.2
16...	1049	110	4.0	10.2
16...	1050	120	3.5	10.0
16...	1051	125	3.5	10.2
MAY				
15...	1330	.1	11.0	9.5
15...	1331	5.0	10.0	9.6
15...	1332	10	9.0	9.7
15...	1333	20	7.5	9.8
15...	1334	25	6.0	9.7
15...	1335	30	6.0	9.6
15...	1336	40	5.5	9.6
15...	1337	50	5.0	9.6
15...	1338	60	5.0	9.6
15...	1339	70	5.0	9.6
15...	1340	75	4.5	9.6
15...	1341	80	4.5	9.6
15...	1342	90	4.5	9.5
15...	1343	100	4.5	9.5
15...	1344	110	4.0	9.5
15...	1345	120	4.0	9.4
MAY				
15...	1346	125	4.0	9.4
JUN				
25...	1416	.1	19.0	7.4
25...	1417	5.0	7.2	19.0
25...	1418	10	7.7	18.0
25...	1419	10	7.7	18.0
25...	1420	25	9.0	11.0
25...	1421	30	9.2	9.0
25...	1422	40	9.0	5.5
25...	1423	50	8.9	6.0
25...	1424	60	8.9	5.0
25...	1425	70	8.9	5.0
25...	1426	75	8.9	5.0
25...	1427	80	8.8	5.0
25...	1428	90	8.8	5.0
25...	1429	100	8.8	5.0
25...	1430	110	8.7	4.5
25...	1431	120	8.6	4.5
JUL				
31...	1412	.1	21.5	6.6

06742500 CARTER LAKE NEAR BERTHOUD, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	SAMPLING DEPTH (FT)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)
JUL				
31...	1413	5.0	19.5	7.4
31...	1414	10	19.0	7.3
31...	1415	20	19.0	7.0
31...	1416	25	15.0	8.0
31...	1417	30	12.0	8.2
31...	1418	40	9.0	8.4
31...	1419	50	7.5	8.0
31...	1420	60	6.0	8.0
31...	1421	70	5.0	8.0
31...	1422	75	5.0	8.0
31...	1423	80	4.5	7.9
31...	1424	90	4.5	8.0
31...	1425	100	4.0	8.0
31...	1426	110	4.0	8.0
31...	1427	120	4.0	7.9
AUG				
20...	1100	.1	19.5	7.5
20...	1101	5.0	19.5	7.6
20...	1102	10	19.0	7.6
20...	1103	20	19.0	7.5
20...	1104	25	15.5	7.5
AUG				
20...	1105	30	12.0	7.8
20...	1106	40	9.0	8.0
20...	1107	50	8.0	8.2
20...	1108	60	7.0	8.2
20...	1109	70	6.5	8.4
20...	1110	75	6.5	8.3
20...	1111	80	6.5	8.2
20...	1112	90	6.0	8.2
20...	1113	100	6.0	8.0
20...	1114	110	6.0	8.0
20...	1115	120	6.0	6.0
SEP				
26...	1350	.1	18.0	7.8
26...	1351	5.0	18.0	7.6
26...	1352	10	18.0	7.3
26...	1353	20	17.5	7.2
26...	1354	25	17.5	7.2
26...	1355	30	17.5	7.2
26...	1356	40	11.5	6.5
26...	1357	50	8.5	7.1
SEP				
26...	1358	60	8.0	7.4
26...	1359	70	7.5	7.5
26...	1400	75	7.0	7.5
26...	1401	80	7.0	7.4
SEP				
26...	1402	90	7.0	7.2
26...	1403	100	7.0	6.6
26...	1404	110	7.0	6.5

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TRANSPARENCY (SECCHI DISK) (IN)	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, (COLS. PER 100 ML)
OCT								
24...	1425	2.0	80	7.9	--	K8	<1	--
24...	1431	40	85	7.9	--	K15	<1	--
24...	1436	80	80	7.6	--	K12	K5	--
NOV								
21...	1110	2.0	70	7.6	62	48	<1	--
APR								
16...	1035	.1	75	7.8	94	--	<1	<1
MAY								
15...	1330	.1	75	7.9	77	--	<1	K1
JUN								
25...	1416	.1	85	8.0	192	--	<1	<1
JUL								
31...	1412	.1	80	8.2	--	--	<1	<1
AUG								
20...	1100	.1	90	7.5	79	--	K1	--
SEP								
26...	1350	.1	85	8.0	--	K3	<1	--

K BASED ON NON-IDEAL COLONY COUNT.

06742500 CARTER LAKE NEAR BERTHOUD, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHYTO- PLANK- TON, TOTAL (CELLS PER ML)
OCT								
24...	48	.07	.06	.00	.06	.01	.010	2100
24...	45	.06	.08	.00	.08	.01	.010	4000
24...	46	.06	.11	.00	.11	.01	.020	4800
NOV								
21...	48	.07	.05	.00	.05	.01	.020	4800
APR								
16...	39	.05	.09	.00	.09	.01	.010	6600
MAY								
15...	40	.05	.00	.00	.00	.03	.010	2200
JUN								
25...	50	.07	.00	.00	.00	.01	.000	270
JUL								
31...	52	.07	.00	.00	.00	.00	.580	13
AUG								
20...	53	.07	.12	.00	.12	.01	.010	1300
SEP								
26...	50	.07	.00	.00	.00	.01	.000	10000

06742500 CARTER LAKE NEAR BERTHOUD, CO--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1978 TO SEPTEMBER 1979

DATE	OCT 24,78	OCT 24,78	OCT 24,78	NOV 21,78	APR 16,79
TIME	1425	1430	1435	1110	1035
TOTAL CELLS/ML	2100	4000	4800	4800	6600
DIVERSITY: DIVISION	0.7	1.0	0.3	0.8	0.2
.CLASS	0.7	1.0	0.3	0.8	0.2
..ORDER	1.3	2.0	1.2	0.9	0.2
...FAMILY	1.4	2.1	1.3	1.0	0.2
....GENUS	1.5	2.2	1.3	1.3	0.3

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)										
.CHLOROPHYCEAE										
..CHLOROCOCCALES										
...CHARACIACEAE										
....SCHROEDERIA	43	2	43	1	29	1	--	-	*	0
...MICRACTINIACEAE										
....MICRACTINIUM	14	1	--	-	--	-	--	-	--	-
...OOCYSTACEAE										
....ANKISTRODESMUS	--	-	--	-	--	-	44	1	--	-
....CHODATELLA	120	5	320	8	29	1	180	4	100	2
....OOCYSTIS	14	1	--	-	--	-	--	-	--	-
...SCENEDESMACEAE										
....SCENEDESMUS	--	-	58	1	29	1	270	6	*	0
....TETRASTRUM	--	-	--	-	--	-	89	2	58	1
..TETRASPORALES										
...PALMELLACEAE										
....SPHAEROCYSTIS	--	-	58	1	--	-	--	-	--	-
..ZYGNEMATALES										
...DESMIDIACEAE										
....CLOSTERIUM	--	-	*	0	*	0	--	-	--	-
....STAURASTRUM	--	-	29	1	--	-	--	-	--	-
CHRYSOPHYTA										
.BACILLARIOPHYCEAE										
..CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	14	1	58	1	*	0	200	4	*	0
....MELOSIRA	1400#	68	1300#	32	2900#	59	3800#	78	6400#	97
..PENNALES										
...DIATOMACEAE										
....DIATOMA	--	-	--	-	--	-	--	-	--	-
...FRAGILARIACEAE										
....ASTERIONELLA	--	-	--	-	--	-	--	-	--	-
....FRAGILARIA	350#	16	1700#	43	1700#	36	--	-	--	-
...NITZSCHIACEAE										
....NITZSCHIA	--	-	--	-	--	-	*	0	--	-
CRYPTOPHYTA (CRYPTOMONADS)										
.CRYPTOPHYCEAE										
..CRYPTOMONADALES										
...CRYPTOCHRYSIDACEAE										
....CHROOMONAS	--	-	--	-	--	-	--	-	--	-
...CRYPTOMONADACEAE										
....CRYPTOMONAS	--	-	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)										
.CYANOPHYCEAE										
..CHROOCOCCALES										
...CHROOCOCCACEAE										
....ANACYSTIS	120	5	290	7	--	-	270	6	--	-
..HORMOGONALES										
...NOSTOCACEAE										
....ANABAENA	--	-	140	4	120	2	--	-	--	-
....APHANIZOMENON	--	-	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2%

06742500 CARTER LAKE NEAR BERTHOUD, CO--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1978 TO SEPTEMBER 1979

DATE	MAY 15,79	JUN 25,79	JUL 31,79	AUG 20,79	SEP 26,79
TIME	1330	1416	1412	1100	1350
TOTAL CELLS/ML	2200	270	13	1300	10000
DIVERSITY: DIVISION	0.9	1.0	0.0	0.2	0.0
.CLASS	0.9	1.0	0.0	0.2	0.0
..ORDER	1.0	1.8	0.0	0.2	0.0
...FAMILY	1.2	2.2	0.0	0.2	0.0
....GENUS	1.3	2.2	0.0	0.2	0.0

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)										
.CHLOROPHYCEAE										
..CHLOROCOCCALES										
...CHARACIACEAE										
....SCHROEDERIA	--	-	--	-	--	-	--	-	*	0
...MICRACTINIACEAE										
....MICRACTINIUM	--	-	--	-	--	-	--	-	--	-
...OOCYSTACEAE										
....ANKISTRODESMUS	20	1	--	-	--	-	--	-	--	-
....CHODATELLA	1700#	77	--	-	--	-	--	-	--	-
....OOCYSTIS	--	-	52#	19	--	-	--	-	--	-
...SCENEDESMACEAE										
....SCENEDESMUS	40	2	52#	19	--	-	--	-	--	-
....TETRASTRUM	--	-	--	-	--	-	--	-	--	-
..TETRASPORALES										
...PALMELLACEAE										
....SPHAEROCYSTIS	--	-	100#	38	--	-	--	-	--	-
..ZYGNEMATALES										
...DESMIDIACEAE										
....CLOSTERIUM	--	-	--	-	--	-	--	-	--	-
....STAURASTRUM	--	-	--	-	--	-	--	-	--	-
CHRYSOPHYTA										
.BACILLARIOPHYCEAE										
..CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	20	1	39	14	13#	100	13	1	*	0
....MELOSIRA	80	4	--	-	--	-	--	-	--	-
..PENNALES										
...DIATOMACEAE										
....DIATOMA	40	2	--	-	--	-	--	-	--	-
...FRAGILARIACEAE										
....ASTERIONELLA	80	4	--	-	--	-	--	-	--	-
....FRAGILARIA	--	-	--	-	--	-	--	-	--	-
...NITZSCHIACEAE										
....NITZSCHIA	--	-	--	-	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)										
.CRYPTOPHYCEAE										
..CRYPTOMONADALES										
...CRYPTOCHRYSIDACEAE										
....CHROOMONAS	--	-	26	10	--	-	--	-	--	-
...CRYPTOMONADACEAE										
....CRYPTOMONAS	220	10	--	-	--	-	13	1	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)										
.CYANOPHYCEAE										
..CHROOCOCCALES										
...CHROOCOCCACEAE										
....ANACYSTIS	--	-	--	-	--	-	--	-	--	-
..HORMOGONALES										
...NOSTOCACEAE										
....ANABAENA	--	-	--	-	--	-	--	-	--	-
....APHANIZOMENON	--	-	--	-	--	-	1300#	98	10000#	100

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
 * - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2%

06744000 BIG THOMPSON RIVER AT MOUTH, NEAR LA SALLE, CO

LOCATION.--Lat 40°21'00", long 104°47'04", in SW¼SE¼ sec.33, T.5 N., R.66 W., Weld County, Hydrologic Unit 10190006, on left bank just southeast of gage on Evans Town ditch, 0.7 mi (1.1 km) upstream from highway bridge, 1.6 mi (2.6 km) upstream from mouth, and 4.2 mi (6.8 km) west of La Salle.

DRAINAGE AREA.--828 mi^2 (2,145 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1914 to October 1915, March 1927 to current year. Prior to October 1933 monthly discharge only, published in WSP 1310. Published as Thompson River at mouth, near La Salle, 1934-47.

REVISED RECORDS.--WSP 976: 1941(M). WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 4,680 ft (1,426 m), from topographic map. Apr. 1, 1914, to Oct. 31, 1915, nonrecording gage, and Mar. 1, 1927, to Sept. 30, 1951, water-stage recorder, at bridge 0.7 mi (1.1 km) downstream at different datums. Datum lowered 0.50 ft (0.152 m) May 21, 1962.

REMARKS.--Records good. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, diversions for irrigation of about 95,000 acres (384 km^2) above station, and return flow from irrigated areas.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,100 ft^3/s (173 m^3/s) Aug. 4, 1951, gage height, 7.80 ft (2.377 m), site and datum then in use, from rating curve extended above 4,500 ft^3/s (127 m^3/s); maximum gage height, 8.72 ft (2.658 m) May 9, 1957, present datum; no flow at times in 1934-35, 1948.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,790 ft^3/s (50.7 m^3/s) at 0230 June 16, gage height, 6.36 ft (1.939 m); minimum daily, 33 ft^3/s (0.65 m^3/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	86	80	52	66	74	82	42	369	154	144	61
2	37	89	76	55	71	76	76	88	348	109	128	69
3	46	89	82	60	68	73	76	133	408	117	119	66
4	46	86	84	69	66	69	74	91	279	99	117	59
5	47	86	87	69	61	66	71	95	241	107	117	50
6	52	86	78	69	62	64	69	107	333	78	113	61
7	43	87	61	66	64	66	69	91	489	78	115	64
8	43	87	60	58	68	68	68	111	769	86	122	68
9	42	86	62	54	68	68	66	221	1330	97	119	64
10	43	86	66	54	78	64	68	261	1670	95	189	56
11	47	89	70	58	86	64	93	270	1630	89	168	58
12	44	86	74	64	95	64	97	208	1400	82	144	71
13	44	84	74	68	126	66	91	244	1430	84	144	82
14	47	82	73	58	147	62	87	247	1570	95	159	117
15	42	82	73	61	126	62	84	279	1710	97	159	111
16	44	80	69	69	93	61	78	303	1670	115	213	97
17	53	80	71	69	84	61	74	291	1490	124	202	89
18	64	80	76	73	82	68	76	270	1470	147	171	80
19	68	80	78	74	84	80	76	253	1370	208	230	78
20	71	80	80	74	82	73	78	247	1160	139	291	78
21	74	80	71	73	78	69	76	235	1000	137	253	78
22	164	82	76	71	73	84	74	264	878	135	202	76
23	186	80	74	60	69	87	53	238	811	128	174	78
24	154	80	73	64	66	84	43	208	766	130	144	74
25	119	82	73	71	62	80	46	181	696	147	133	82
26	103	84	66	66	64	82	44	178	498	144	119	76
27	97	84	71	58	73	84	42	168	372	168	105	56
28	93	82	74	58	74	80	40	154	227	147	95	58
29	89	82	62	61	---	82	39	192	200	128	84	56
30	87	82	53	62	---	74	40	498	224	133	69	54
31	86	---	53	59	---	78	---	489	---	135	68	---
TOTAL	2208	2509	2220	1977	2236	2233	2050	6657	26808	3732	4610	2167
MEAN	71.2	83.6	71.6	63.8	79.9	72.0	68.3	215	894	120	149	72.2
MAX	186	89	87	74	147	87	97	498	1710	208	291	117
MIN	33	80	53	52	61	61	39	42	200	78	68	50
AC-FT	4380	4980	4400	3920	4440	4430	4070	13200	53170	7400	9140	4300

CAL YR 1978 TOTAL 33815 MEAN 92.6 MAX 834 MIN 20 AC-FT 67070
WTR YR 1979 TOTAL 59407 MEAN 163 MAX 1710 MIN 33 AC-FT 117800

06744000 BIG THOMPSON RIVER AT MOUTH, NEAR LA SALLE, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1954 to July 1956, October 1967 to September 1969, October 1970 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	TEMPER-ATURE (DEG C)
OCT		
05...	1035	9.5
17...	1045	9.0
23...	1115	7.0
NOV		
09...	1325	12.0
22...	1420	5.0
28...	1255	2.5
DEC		
04...	1420	2.0
28...	1300	1.0
JAN		
05...	1605	.0
24...	1525	1.0
25...	0930	.0
FEB		
05...	1525	.0
12...	1027	.0
20...	1015	3.0
MAR		
01...	1050	5.0
26...	1015	6.0
29...	0922	8.5
APR		
06...	0930	8.0
10...	1125	9.5
17...	1015	13.0
MAY		
09...	1019	5.0
14...	1050	13.0
24...	1040	14.0
JUN		
20...	0919	12.0
26...	0900	16.0
JUL		
02...	1100	18.0
10...	0939	18.5
17...	0840	19.0
AUG		
16...	0756	16.0
20...	1345	20.0
SEP		
28...	0900	13.5

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT										
17...	1045	54	2000	8.2	9.0	9.4	650	390	150	67
NOV										
28...	1255	82	2170	8.3	2.5	11.6	940	650	180	120
DEC										
28...	1300	95	2200	8.1	1.0	11.4	1000	730	200	130
JAN										
25...	0930	66	2100	8.1	.0	10.8	1000	710	210	120
FEB										
12...	1027	E80	1900	8.1	.0	10.2	890	640	160	120
MAR										
29...	0922	89	2450	8.3	8.5	11.1	1200	890	210	160
APR										
10...	1125	68	2010	8.2	9.5	9.9	1100	820	220	140
MAY										
09...	1019	241	1700	8.1	5.0	9.5	750	560	140	98
JUN										
20...	0919	856	325	8.0	12.0	7.8	120	73	27	12
JUL										
10...	0939	99	1850	8.1	18.5	6.8	700	490	130	91
AUG										
16...	0756	258	1380	8.0	16.0	7.5	610	420	120	75
SEP										
28...	0900	59	1500	8.1	13.5	7.8	620	390	130	71

E ESTIMATED.

06744000 BIG THOMPSON RIVER AT MOUTH, NEAR LA SALLE, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
OCT 17...	140	2.4	7.0	320	0	260	580	67	1.3
NOV 28...	160	2.3	5.8	360	0	300	970	22	1.0
DEC 28...	170	2.3	6.7	370	0	300	1000	23	1.1
JAN 25...	160	2.2	9.6	--	--	310	960	23	1.1
FEB 12...	130	1.9	8.2	--	--	250	850	22	.9
MAR 29...	190	2.4	6.5	--	--	290	1200	28	1.1
APR 10...	180	2.3	.3	--	--	310	1100	21	1.1
MAY 09...	140	2.2	10	--	--	190	800	21	.8
JUN 20...	18	.7	1.5	--	--	44	97	3.5	.3
JUL 10...	140	2.3	5.3	--	--	210	780	19	.9
AUG 16...	110	1.9	3.8	--	--	190	600	15	.8
SEP 28...	110	1.9	6.2	--	--	230	540	28	.9

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
OCT 17...	11	1200	1.63	177	4.8	.400	--	10	30
NOV 28...	11	1660	2.26	368	3.3	.320	.29	10	100
DEC 28...	10	1740	2.37	446	3.9	.400	--	60	90
JAN 25...	10	1700	2.31	303	3.8	.560	--	20	110
FEB 12...	9.7	1470	2.00	318	5.1	.530	--	20	150
MAR 29...	6.7	1990	2.71	480	2.1	.410	--	30	100
APR 10...	6.4	1870	2.54	343	2.4	.600	.48	40	100
MAY 09...	9.1	1340	1.82	872	2.4	.360	--	50	180
JUN 20...	7.9	195	.27	451	.34	.050	--	70	20
JUL 10...	9.4	1310	1.78	350	2.0	.260	--	<0	70
AUG 16...	11	1060	1.44	738	2.0	.130	--	30	80
SEP 28...	11	1050	1.43	167	3.7	.580	--	20	60

06746095 JOE WRIGHT CREEK ABOVE JOE WRIGHT RESERVOIR, CO

LOCATION.--Lat 40°32'24", long 105°52'56", in SE¼SE¼ sec.26, T.7 N., R.76 W., Larimer County, Hydrologic Unit 10190007, on left bank 150 ft (46 m) below unnamed tributary and Colorado Highway 14 culvert crossing, 1.5 mi (2.4 km) northeast of Cameron Pass, 1.5 mi (2.4 km) southwest of Joe Wright Dam, and 8 mi (12.9 km) east of Gould.

DRAINAGE AREA.--3.01 mi² (7.80 km²).

PERIOD OF RECORD.--October 1978 to September 1979.

GAGE.--Water-stage recorder. Altitude of gage is 9,990 ft (3,045 m), from topographic map.

REMARKS.--Records fair except those for period of no gage-height record, which are poor.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 97 ft³/s (2.75 m³/s) at 1730 June 15, gage height, 1.58 ft (0.482 m); minimum daily, 0.20 ft³/s (0.006 m³/s) Jan. 30 to Apr. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.90	.40	.35	.30	.20	.20	.20	.50	11	42	7.6	5.7
2	.90	.40	.33	.30	.20	.20	.20	.50	12	36	6.8	5.2
3	1.1	.40	.32	.30	.20	.20	.20	.50	24	34	6.3	4.8
4	1.0	.40	.32	.30	.20	.20	.20	.52	19	32	5.8	4.4
5	1.0	.40	.32	.30	.20	.20	.22	.59	21	27	5.5	4.2
6	1.1	.40	.30	.30	.20	.20	.25	.80	28	26	5.2	4.2
7	1.1	.40	.30	.30	.20	.20	.30	1.0	31	25	5.1	4.1
8	1.0	.40	.30	.30	.20	.20	.30	1.3	22	23	4.2	3.3
9	.80	.35	.30	.30	.20	.20	.30	1.7	18	21	4.0	1.9
10	.70	.34	.30	.30	.20	.20	.30	1.2	17	22	8.4	2.1
11	.70	.34	.30	.30	.20	.20	.30	.80	21	20	5.8	2.0
12	.70	.34	.30	.30	.20	.20	.30	.72	31	23	5.1	1.8
13	.70	.34	.30	.30	.20	.20	.30	.72	38	26	8.6	1.7
14	.70	.34	.30	.30	.20	.20	.30	1.4	51	25	9.2	2.0
15	.70	.35	.30	.30	.20	.20	.35	2.5	59	24	9.5	1.7
16	.70	.35	.30	.30	.20	.20	.37	3.5	54	23	9.7	1.5
17	.70	.35	.30	.30	.20	.20	.40	4.5	51	22	11	1.4
18	.70	.35	.30	.30	.20	.20	.45	6.0	46	20	14	1.2
19	.60	.35	.30	.30	.20	.20	.50	6.6	36	18	23	1.2
20	.60	.35	.30	.30	.20	.20	.50	7.0	33	16	21	1.3
21	.60	.35	.30	.30	.20	.20	.50	7.0	33	16	18	1.2
22	.70	.35	.30	.30	.20	.20	.50	7.3	33	15	14	1.1
23	.90	.35	.30	.30	.20	.20	.52	8.0	37	14	13	1.1
24	.90	.35	.30	.30	.20	.20	.56	8.0	40	17	12	1.1
25	.70	.35	.30	.30	.20	.20	.60	8.2	41	13	11	1.1
26	.60	.35	.30	.30	.20	.20	.60	10	42	12	10	1.3
27	.60	.35	.30	.25	.20	.20	.60	11	45	11	9.2	1.1
28	.50	.35	.30	.23	.20	.20	.60	34	45	11	8.1	1.1
29	.50	.35	.30	.21	---	.20	.56	25	45	9.7	7.3	1.1
30	.40	.35	.30	.20	---	.20	.52	14	44	8.8	7.0	1.1
31	.40	---	.30	.20	---	.20	---	13	---	8.3	6.4	---
TOTAL	23.20	10.85	9.44	8.89	5.60	6.20	11.80	187.85	1028	640.8	291.8	67.0
MEAN	.75	.36	.30	.29	.20	.20	.39	6.06	34.3	20.7	9.41	2.23
MAX	1.1	.40	.35	.30	.20	.20	.60	34	59	42	23	5.7
MIN	.40	.34	.30	.20	.20	.20	.20	.50	11	8.3	4.0	1.1
AC-FT	46	22	19	18	11	12	23	373	2040	1270	579	133

WTR YR 1979 TOTAL 2291.43 MEAN 6.28 MAX 59 MIN .20 AC-FT 4550

NOTE.--NO GAGE-HEIGHT RECORD OCT. 1 TO MAY 25.

06746100 JOE WRIGHT CREEK NEAR CAMERON PASS, CO

LOCATION.--Lat 40°32'49", long 105°52'31", in SW¼NW¼ sec.25, T.7 N., R.76 W., Larimer County, Hydrologic Unit 10190007, on left bank 1,850 ft (560 m) downstream from Montgomery Creek, 1.0 mi (1.6 km) upstream from Joe Wright Reservoir dam, 1.9 mi (3.1 km) northeast of Cameron Pass, and 8 mi (13 km) east of Gould.

DRAINAGE AREA.--5.05 mi² (13.08 km²).

PERIOD OF RECORD.--October 1973 to September 1977, July to October 1978 (discontinued).

GAGE.--Water-stage recorder. Altitude of gage is 9,910 ft (3,021 m), from topographic map.

REMARKS.--Records fair. Transbasin diversions from North Platte River basin to Cache la Poudre River basin enter above this station (see elsewhere in this report).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 190 ft³/s (5.38 m³/s) June 8, 1977, gage height, 4.49 ft (1.369 m); minimum daily, 0.22 ft³/s (0.006 m³/s) Mar. 17-19, 31, Apr. 3, 4, 1975.

EXTREMES FOR CURRENT YEAR.--Not determined.

DISCHARGE, IN CUBIC FEET PER SECOND, JULY TO OCTOBER 1978

	JULY				AUG				SEPT				OCT			
	1	65	16	21	1	6.4	16	3.3	1	1.4	16	1.1	1	1.0	16	.79
	2	61	17	23	2	5.8	17	2.7	2	1.2	17	2.6	2	1.0	17	.77
	3	58	18	20	3	5.4	18	3.2	3	1.1	18	2.2	3	1.2	18	.77
	4	53	19	19	4	5.0	19	2.9	4	1.1	19	2.4	4	1.1	19	.70
	5	49	20	17	5	4.7	20	2.6	5	1.0	20	2.7	5	1.1	20	.69
	6	44	21	16	6	4.4	21	2.4	6	.96	21	3.8	6	1.2	21	.72
	7	40	22	15	7	4.1	22	2.5	7	.93	22	3.7	7	1.2	22	.80
	8	37	23	14	8	3.9	23	2.2	8	1.0	23	2.7	8	1.1	23	.96
	9	35	24	13	9	3.8	24	2.0	9	1.6	24	2.1	9	.88	24	.98
	10	31	25	12	10	3.5	25	2.0	10	1.7	25	1.7	10	.77	25	.77
	11	31	26	11	11	3.4	26	1.8	11	2.1	26	1.5	11	.77	26	.70
	12	31	27	9.1	12	3.4	27	1.5	12	2.0	27	1.4	12	.77	27	.70
	13	27	28	7.7	13	3.3	28	1.4	13	1.7	28	1.3	13	.77	28	.60
	14	24	29	9.2	14	4.2	29	1.4	14	1.4	29	1.2	14	.82	29	.60
	15	23	30	7.4	15	5.0	30	1.3	15	1.3	30	1.1	15	.78	30	.50
			31	6.6			31	1.4							31	.50
TOTAL				830.0				100.9				51.99				26.01
MEAN				26.8				3.25				1.73				.84
MAX				65				6.4				3.8				1.2
MIN				6.6				1.3				.93				.50
AC-FT				1650				200				103				52

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06746110 JOE WRIGHT CREEK BELOW JOE WRIGHT RESERVOIR, CO

LOCATION.--Lat 40°33'43", long 105°52'09", in SE¼NE¼ sec. 24, T. 7 N., R. 76 W., Larimer County, Hydrologic Unit 10190007, on left bank 500 ft (152 m) downstream from unnamed tributary, 2,000 ft (610 m) downstream from Joe Wright Dam, and 3 mi (4.8 km) southwest of Chambers Lake.

DRAINAGE AREA.--6.90 mi² (17.9 km²).

PERIOD OF RECORD.--June 29, 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 9,710 ft (2,960 m), from topographic map.

REMARKS.--Records fair except those for period of no gage-height record, which are poor. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 145 ft³/s (4.11 m³/s), June 30, 1978, gage height, 2.46 ft (0.750 m); minimum daily, 0.27 ft³/s (0.008 m³/s) Jan. 31 to Feb. 14, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 120 ft³/s (3.40 m³/s) at 2330 June 14, gage height, 2.33 ft (0.710 m); minimum daily, 0.27 ft³/s (0.008 m³/s) Jan. 31 to Feb. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	1.0	1.0	.40	.27	.30	.30	.85	29	74	13	11
2	2.0	1.0	.90	.40	.27	.30	.30	.82	30	66	12	10
3	2.4	1.0	.90	.40	.27	.30	.30	.82	38	64	11	9.8
4	2.2	1.0	.90	.40	.27	.30	.30	.90	46	62	10	9.8
5	2.2	1.0	.90	.40	.27	.30	.30	1.0	55	53	10	9.7
6	2.5	1.0	.80	.35	.27	.30	.35	1.2	65	48	9.8	9.1
7	2.7	1.0	.70	.35	.27	.30	.35	1.5	76	45	9.8	9.1
8	2.4	1.0	.60	.35	.27	.30	.35	2.0	54	42	9.6	9.1
9	2.3	1.0	.60	.32	.27	.30	.35	2.5	44	39	9.3	9.1
10	2.0	1.0	.60	.32	.27	.30	.35	2.0	45	38	14	8.8
11	2.0	1.0	.60	.30	.27	.30	.35	1.3	53	36	11	8.0
12	1.9	1.0	.60	.30	.27	.30	.35	1.0	71	30	9.4	7.6
13	2.2	1.0	.60	.30	.27	.30	.35	.75	84	49	17	7.2
14	2.1	1.0	.60	.30	.27	.30	.35	1.7	100	39	19	7.0
15	2.3	1.0	.60	.30	.28	.30	.39	4.6	105	37	18	6.8
16	2.2	1.0	.60	.32	.30	.30	.45	8.3	91	36	18	6.4
17	1.9	1.0	.60	.35	.30	.30	.55	12	84	35	23	6.0
18	1.5	1.0	.60	.35	.30	.30	.60	19	78	32	27	5.0
19	1.5	1.0	.60	.35	.30	.30	.70	32	66	28	40	5.0
20	1.4	1.0	.60	.35	.30	.30	.75	38	58	25	43	5.0
21	1.4	1.0	.60	.35	.30	.30	.80	36	61	26	32	4.8
22	1.7	1.0	.60	.35	.30	.30	.85	34	65	26	25	4.6
23	1.3	1.0	.60	.35	.30	.30	.85	37	70	22	22	4.2
24	1.2	1.0	.60	.35	.30	.30	.90	40	71	27	22	4.0
25	1.1	1.0	.60	.35	.30	.30	.95	40	73	25	20	4.0
26	1.0	1.0	.60	.35	.30	.30	.95	44	73	20	17	4.0
27	1.0	1.0	.60	.35	.30	.30	.95	45	77	19	16	3.5
28	1.0	1.0	.50	.32	.30	.30	.90	60	78	19	14	3.2
29	1.0	1.0	.45	.30	---	.30	.90	63	75	16	13	3.0
30	1.0	1.0	.40	.28	---	.30	.89	46	74	15	13	3.0
31	1.0	---	.40	.27	---	.30	---	35	---	14	12	---
TOTAL	54.4	30.0	19.85	10.53	7.96	9.30	17.03	612.24	1989	1107	539.9	197.8
MEAN	1.75	1.00	.64	.34	.28	.30	.57	19.7	66.3	35.7	17.4	6.59
MAX	2.7	1.0	1.0	.40	.30	.30	.95	63	105	74	43	11
MIN	1.0	1.0	.40	.27	.27	.30	.30	.75	29	14	9.3	3.0
AC-FT	108	60	39	21	16	18	34	1210	3950	2200	1070	392

WTR YR 1979 TOTAL 4595.01 MEAN 12.6 MAX 105 MIN .27 AC-FT 9110

NOTE.--NO GAGE-HEIGHT RECORD AUG. 6 TO MAY 11.

06748600 SOUTH FORK CACHE LA POUDRE RIVER NEAR RUSTIC, CO

LOCATION.--Lat 40°38'49", long 105°29'35", in SW¼ sec.20, T.8 N., R.72 W., Larimer County, Hydrologic Unit 10190007, on left bank 5.7 mi (9.2 km) upstream from mouth, 6 mi (10 km) southeast of Rustic, and 22 mi (35 km) west of Fort Collins.

DRAINAGE AREA.--92.4 mi² (239.3 km²).

PERIOD OF RECORD.--August 1956 to September 1979 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 7,596.86 ft (2,315.523 m) (Water and Power Resources Service bench mark).

REMARKS.--Records good except those for winter period, which are poor. No diversion above station. Slight regulation by small reservoirs and lakes. Several observations of specific conductance and water teeperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--23 years, 63.4 ft³/s (1.795 m³/s), 45,930 acre-ft/yr (56.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,260 ft³/s (35.7 m³/s) June 17, 1965, gage height, 5.05 ft (1.539 m), from rating curve extended above 780 ft³/s (22 m³/s); minimum not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 610 ft³/s (17.3 m³/s) at 0300 June 18, gage height, 3.86 ft (1.177 m), only peak above base of 250 ft³/s (7.1 m³/s); minimum daily, 5.5 ft³/s (0.16 m³/s) Feb. 1 to Mar. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	13	8.5	7.0	5.5	5.5	15	35	225	363	99	155
2	17	14	8.5	7.0	5.5	5.5	14	38	209	370	91	151
3	16	13	8.5	7.0	5.5	5.5	14	32	203	356	83	129
4	16	13	8.5	6.0	5.5	5.5	14	33	207	379	80	129
5	16	13	8.5	6.0	5.5	5.5	14	42	226	331	78	148
6	15	13	7.4	6.0	5.5	5.5	16	53	252	298	132	144
7	15	14	7.0	6.0	5.5	5.5	18	57	297	287	133	124
8	15	12	7.0	6.0	5.5	5.5	21	48	273	250	151	114
9	14	12	7.0	6.0	5.5	5.5	23	44	266	240	164	102
10	14	12	7.0	6.0	5.5	5.5	23	43	251	222	172	97
11	13	9.0	7.0	6.0	5.5	5.5	23	40	260	209	95	94
12	13	8.6	7.0	6.0	5.5	5.5	23	39	269	187	81	79
13	13	8.5	7.0	6.0	5.5	5.5	23	43	324	189	84	44
14	13	8.5	7.0	6.0	5.5	5.5	26	51	394	188	101	49
15	13	8.5	7.0	6.0	5.5	6.0	30	55	493	185	89	44
16	13	8.5	7.0	6.0	5.5	6.5	34	68	566	170	94	38
17	13	8.5	7.0	6.0	5.5	7.0	37	87	553	177	104	34
18	13	8.5	7.0	6.0	5.5	7.5	40	106	551	170	107	31
19	13	8.5	7.0	6.0	5.5	8.0	35	122	492	152	110	30
20	12	8.5	7.0	6.0	5.5	8.0	32	131	418	149	101	32
21	13	8.5	7.0	6.0	5.5	8.0	34	124	368	135	94	40
22	20	8.5	7.0	6.0	5.5	8.0	35	137	361	142	85	32
23	16	8.5	7.0	6.0	5.5	8.0	37	145	326	131	80	29
24	18	8.5	7.0	6.0	5.5	9.0	39	168	321	135	78	28
25	17	8.5	7.0	6.0	5.5	10	40	187	318	130	75	28
26	16	8.5	7.0	6.0	5.5	12	35	224	317	119	72	27
27	15	8.5	7.0	6.0	5.5	13	36	229	327	117	69	27
28	15	8.5	7.0	6.0	5.5	15	37	238	333	119	111	26
29	14	8.5	7.0	6.0	---	17	34	244	349	114	147	25
30	14	8.5	7.0	6.0	---	16	35	237	343	103	163	25
31	13	---	7.0	6.0	---	15	---	223	---	103	158	---
TOTAL	455	299.6	224.9	189.0	154.0	251.0	837	3323	10092	6220	3281	2055
MEAN	14.7	9.99	7.25	6.10	5.50	8.10	27.9	107	336	201	106	68.5
MAX	20	14	8.5	7.0	5.5	17	40	244	566	379	172	155
MIN	12	8.5	7.0	6.0	5.5	5.5	14	32	203	103	69	25
AC-FT	902	594	446	375	305	498	1660	6590	20020	12340	6510	4080

CAL YR 1978 TOTAL 24564.0 MEAN 67.3 MAX 552 MIN 6.0 AC-FT 48720
WTR YR 1979 TOTAL 27381.5 MEAN 75.0 MAX 566 MIN 5.5 AC-FT 54310

NOTE.--NO GAGE-HEIGHT RECORD NOV. 22 TO APR. 23.

TRANSBASIN DIVERSIONS FROM NORTH PLATTE RIVER BASIN TO CACHE LA POUDRE RIVER BASIN IN COLORADO

The following seven diversions, which are equipped with water-stage recorders, divert water from tributaries of the North Platte River to the Cache la Poudre River or its tributaries. Records furnished by Colorado Division of Water Resources.

06745500 Cameron Pass ditch diverts water from tributaries of Michigan River in sec.10, T.6 N., R.76 W., to Joe Wright Creek (tributary to Cache la Poudre River) in sec.2, T.6 N., R.76 W.

06746000 Michigan ditch diverts water from Michigan River, headgate in sec.12, T.6 N., R.76 W., and many small tributaries and Agnes Creek (tributary to Michigan River), headgate in sec.15, T.6 N., R.76 W., to Joe Wright Creek (tributary to Cache la Poudre River) in sec.2, T.6 N., R.76 W.

06746500 Skyline ditch diverts water from West Branch Laramie River (tributary to Laramie River), headgate in sec.14, T.8 N., R.76 W., to Chambers Lake (tributary to Cache la Poudre River) in sec.31, T.8 N., R.75 W.

06747000 Laramie-Poudre tunnel diverts water from Laramie River in sec.7, T.8 N., R.75 W., and Rawah Creek (tributary to Laramie River) in sec.14, T.9 N., R.76 W., to Cache la Poudre River in sec.9, T.8 N., R.75 W.

06747200 Bob Creek ditch diverts water from Nunn Creek (tributary to Laramie River) in sec.9, T.9 N., R.75 W., to Roaring Creek (tributary to Cache la Poudre River) in sec.11, T.9 N., R.75 W.

06750000 Columbine ditch diverts water from Nunn Creek (tributary to Laramie River) in sec.3, T.9 N., R.75 W., to North Fork Cache la Poudre River (tributary to Cache la Poudre River) in sec.25, T.10 N., R.75 W.

06750500 Wilson supply ditch diverts water from Sand Creek in sec.22, T.11 N., R.75 W., and at times includes water diverted from tributaries of Deadman Creek in sec.9, T.10 N., R.75 W. Diversion is from the Laramie River basin to Sheep Creek (tributary to North Fork Cache la Poudre River) in sec.23, T.11 N., R.75 W., in the Cache la Poudre River basin. Records represent total flow diverted from the Laramie River basin by Wilson supply ditch.

REVISED RECORDS.--WSP 1310: 1945, 1947.

INFLOW FROM TRANSBASIN DIVERSIONS, IN ACRE-FEET, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

Month	06745500 Cameron Pass ditch	06746000 Michigan ditch	06746500 Skyline ditch	06747000 Laramie-Poudre tunnel	06747200 Bob Creek ditch	06750000 Columbine ditch	06750500 Wilson supply ditch	Total
October	0	0	0	0	0	0	0	0
November	0	0	0	0	0	0	0	0
December	0	0	0	0	0	0	0	0
January	0	0	0	0	0	0	0	0
February	0	0	0	0	0	0	0	0
March	0	0	0	0	0	0	0	0
April	0	0	0	0	0	0	0	0
May	0	0	0	0	0	0	248	248
June	119	0	0	313	0	0	118	550
July	114	394	426	9,040	0	0	0	9,974
August	0.3	307	0	4,770	0	0	0	5,077
September	0	25	0	914	0	0	0	939
Water year 1979	234	726	426	15,040	0	0	367	16,790

06752000 CACHE LA POUDRE RIVER AT MOUTH OF CANYON, NEAR FORT COLLINS, CO

LOCATION.--Lat 40°39'52", long 105°13'26", in NW¼ sec.15, T.8 N., R.70 W., Larimer County, Hydrologic Unit 10190007, on left bank at mouth of canyon, 0.5 mi (0.8 km) downstream from headgate of Poudre Valley Canal, 1.2 mi (1.9 km) upstream from Lewstone Creek, and 9.3 mi (15.0 km) northwest of courthouse in Fort Collins.

DRAINAGE AREA.--1,056 mi² (2,735 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June to August 1881, May to July 1883, October 1883 to current year. Monthly discharge only for some periods, published in WSP 1310. Records for Mar. 23 to Apr. 30 and July 4 to Aug. 20, 1883, published in WSP 9, have been found to be unreliable and should not be used. Prior to 1902, published as Cache la Poudre Creek or River at or near Fort Collins.

REVISED RECORDS.--WSP 1310: 1885-87, 1889, 1892, 1894-96, 1934. WSP 1730: 1960, drainage area. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Altitude of gage is 5,220 ft (1,591 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Natural flow of stream affected by transbasin and transmountain diversions (see elsewhere in this report), diversions above station for irrigation of about 50,000 acres (202 km²), most of which is below station (99,270 acre-ft or 122 hm³ during current year), and diversions for municipal use (12,450 acre-ft or 15.4 hm³ during current year).

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge not determined, occurred May 20, 1904; maximum discharge determined, 21,000 ft³/s (595 m³/s) June 9, 1891 (from reports of State Engineer of Colorado), caused by failure of Chambers Lake Dam; minimum daily discharge, 1.6 ft³/s (0.045 m³/s) Nov. 20, 28, 1948, caused by diversion of Poudre Valley Canal 0.5 mi (0.8 km) upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,290 ft³/s (93.2 m³/s) at 0430 June 17, gage height, 5.46 ft (1.664 m); minimum daily, 12 ft³/s (0.34 m³/s) Jan. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	87	40	23	14	16	16	40	168	1780	2250	491	261
2	77	39	17	16	14	15	30	193	1510	2070	478	267
3	75	43	17	21	15	14	36	116	1450	1820	436	238
4	70	40	22	19	16	14	37	140	1470	1900	412	205
5	66	38	22	18	16	15	38	144	1540	1710	343	196
6	54	41	20	19	17	18	42	173	1940	1520	393	178
7	35	36	17	17	16	20	54	227	2270	1400	454	151
8	27	37	15	17	16	19	66	258	1960	1160	498	129
9	28	38	20	18	18	18	72	245	1990	1120	548	142
10	25	37	30	20	20	19	80	236	2160	1070	640	218
11	24	32	30	22	21	21	92	234	2370	1030	569	243
12	20	18	31	20	22	22	76	253	2150	883	550	262
13	24	19	27	18	23	25	73	269	2160	805	556	214
14	25	27	29	18	25	21	85	296	2390	862	664	158
15	33	25	29	21	18	25	102	308	2710	891	603	113
16	38	18	23	23	14	26	121	436	2870	833	707	81
17	39	20	17	23	14	27	145	592	2980	770	800	85
18	37	21	18	23	15	27	73	749	2960	741	855	97
19	38	20	19	23	16	24	21	843	2550	691	899	99
20	40	19	17	26	15	25	20	959	1980	627	876	102
21	38	25	17	23	15	25	24	1010	1760	640	831	118
22	75	30	19	20	16	24	24	1150	1630	626	746	114
23	66	30	20	18	15	17	23	1220	1620	578	704	103
24	56	29	20	19	14	24	138	1450	1700	561	570	97
25	61	33	20	20	15	26	181	1620	1810	552	538	89
26	61	46	18	17	17	31	178	1750	1960	478	504	115
27	47	32	22	15	16	26	176	1890	2010	479	464	126
28	49	24	25	15	15	33	172	2020	2010	475	335	83
29	44	22	19	13	---	43	162	2440	2150	505	321	72
30	42	23	16	12	---	38	151	2440	2210	469	345	68
31	42	---	14	14	---	40	---	2010	---	441	318	---
TOTAL	1443	902	653	582	470	738	2532	25839	62050	29957	17448	4424
MEAN	46.5	30.1	21.1	18.8	16.8	23.8	84.4	834	2068	966	563	147
MAX	87	46	31	26	25	43	181	2440	2980	2250	899	267
MIN	20	18	14	12	14	14	20	116	1450	441	318	68
AC-FT	2860	1790	1300	1150	932	1460	5020	51250	123100	59420	34610	8780

CAL YR 1978 TOTAL 136002 MEAN 373 MAX 3080 MIN 10 AC-FT 269800
WTR YR 1979 TOTAL 147038 MEAN 403 MAX 2980 MIN 12 AC-FT 291600

NOTE.--NO GAGE-HEIGHT RECORD DEC. 1 TO MAR. 11.

06752000 CACHE LA POUDRE RIVER AT MOUTH OF CANYON, NEAR FORT COLLINS, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 1962 to October 1965, October 1971 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIMF	OXYGEN, DIS- SOLVED (MG/L)
OCT		
16...	1430	9.6
NOV		
29...	1331	5.4
DEC		
27...	1508	10.8
27...	1600	10.8
27...	1700	10.6
27...	1800	10.6
27...	1900	10.4
27...	2000	10.4
27...	2100	10.5
27...	2200	10.5
27...	2300	10.4
27...	2400	10.4
28...	0100	10.3
28...	0200	10.2
28...	0300	10.1
28...	0400	10.0
28...	0500	9.8
28...	0600	9.8
28...	0700	9.9
28...	0800	9.9
28...	0900	10.0

DATE	TIME	OXYGEN, DIS- SOLVED (MG/L)
DEC		
28...	1000	10.1
28...	1100	10.2
28...	1200	10.2
28...	1300	10.3
28...	1400	10.2
28...	1500	10.2
28...	1509	10.1
JAN		
25...	1337	11.4
FEB		
14...	0910	11.5
MAR		
14...	1200	10.7
14...	1227	10.7
14...	1300	10.5
14...	1400	10.4
14...	1500	10.1
14...	1600	9.7
14...	1700	9.5
14...	1800	9.2
14...	2000	8.9

DATE	TIME	OXYGEN, DIS- SOLVED (MG/L)
MAR		
14...	2100	8.8
14...	2200	8.7
14...	2300	8.7
14...	2400	8.7
15...	0100	8.9
15...	0200	9.0
15...	0300	8.9
15...	0400	8.8
15...	0500	8.9
15...	0600	8.9
15...	0700	8.9
15...	0800	9.0
15...	0900	9.1
15...	1000	9.1
15...	1100	9.0
15...	1200	8.8
15...	1300	8.6
15...	1353	8.6
APR		
11...	0920	9.8
MAY		
10...	0902	10.5

DATE	TIME	OXYGEN, DIS- SOLVED (MG/L)
JUN		
21...	0921	8.8
JUL		
25...	1254	7.4
25...	1312	7.6
25...	1400	7.4
25...	1500	7.1
25...	1600	7.0
25...	1700	6.8
25...	1800	6.7
25...	1900	6.6
25...	2000	6.5
25...	2100	6.5
25...	2200	6.6
25...	2300	6.6
25...	2400	6.6
26...	0100	6.8
26...	0200	6.9
26...	0300	7.0
26...	0400	7.1
26...	0500	7.1

06752000 CACHE LA POUDRE RIVER AT MOUTH OF CANYON, NEAR FORT COLLINS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	OXYGEN, DIS- SOLVED (MG/L)	DATE	TIME	OXYGEN, DIS- SOLVED (MG/L)
JUL			JUL		
26...	0600	7.1	26...	1400	7.4
26...	0700	7.2	26...	1451	7.5
26...	0800	7.3	AUG		
26...	0900	7.5	15...	1451	8.0
26...	1000	7.7	SEP		
26...	1100	7.7	27...	1350	7.2
26...	1200	7.7			
26...	1300	7.6			

DATE	TIME	TEMPER- ATURE (DEG C)	DATE	TIME	TEMPER- ATURE (DEG C)
OCT			APR		
02...	1040	11.0	05...	1110	7.0
16...	1430	11.5	11...	0920	1.5
17...	1445	12.0	16...	1055	9.0
NOV			MAY		
06...	1050	3.0	01...	1100	10.0
16...	1105	.0	10...	0902	4.0
29...	1331	.5	18...	1400	12.0
DEC			JUN		
11...	1430	.5	11...	1130	11.0
27...	1508	.0	16...	0835	10.0
JAN			21...	0921	10.5
09...	1010	.0	JUL		
22...	1105	1.0	03...	1130	14.0
25...	1337	.0	17...	1340	15.0
FEB			25...	1254	18.5
09...	1020	.0	AUG		
14...	0910	.0	07...	1210	18.0
19...	1105	.5	15...	1451	13.5
MAR			24...	1215	15.0
03...	1455	2.0	SEP		
14...	1200	7.0	04...	1120	17.0
21...	1110	2.0	27...	1350	18.0

06752000 CACHE LA POUDRE RIVER AT MOUTH OF CANYON, NEAR FORT COLLINS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	NITRO-GEN, DIS-SOLVED (MG/L AS N)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT											
16...	1430	39	65	7.7	11.5	--	26	0	7.2	1.9	3.3
NOV											
29...	1331	E38	83	7.4	.5	--	30	0	8.4	2.2	3.8
DEC											
27...	1508	252	87	7.6	.0	--	29	0	8.1	2.1	3.8
JAN											
25...	1337	E25	90	7.7	.0	--	30	0	8.2	2.2	3.8
FEB											
14...	0910	18	83	7.9	.0	.29	27	0	7.4	2.0	3.2
MAR											
14...	1200	26	100	8.0	7.0	.11	38	8	13	1.3	3.5
APR											
11...	0920	94	95	7.8	1.5	.35	42	10	12	2.9	4.5
MAY											
10...	0902	257	128	7.8	4.0	.30	49	4	14	3.5	7.9
JUN											
21...	0921	1850	50	7.4	10.5	.28	19	8	5.4	1.3	2.1
JUL											
25...	1254	550	45	7.3	18.5	.15	16	2	4.6	1.1	1.8
AUG											
15...	1451	626	54	7.9	13.5	.44	21	0	5.9	1.5	2.3
SEP											
27...	1350	139	180	8.4	18.0	.42	75	2	21	5.4	7.1

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
OCT											
16...	.3	.9	33	0	27	7.3	1.1	.2	10	48	.07
NOV											
29...	.3	.9	39	0	32	5.6	1.4	.2	9.6	52	.07
DEC											
27...	.3	1.0	39	0	32	4.3	2.9	.2	10	52	.07
JAN											
25...	.3	1.1	--	--	31	9.2	1.6	.2	11	57	.08
FEB											
14...	.3	.9	--	--	27	8.2	.8	.2	9.4	49	.07
MAR											
14...	.2	.9	--	--	30	7.3	1.6	.2	8.8	55	.07
APR											
11...	.3	.8	--	--	32	10	1.8	.2	8.8	61	.08
MAY											
10...	.5	1.2	--	--	45	10	2.6	.5	15	83	.11
JUN											
21...	.2	.8	--	--	11	4.0	4.0	.2	8.2	33	.04
JUL											
25...	.2	.8	--	--	14	2.8	.7	.2	7.7	28	.04
AUG											
15...	.2	.7	--	--	22	2.9	.7	.2	7.9	36	.05
SEP											
27...	.4	1.5	--	--	73	15	3.6	.5	12	110	.15

E ESTIMATED.

06752000 CACHE LA POUDRE RIVER AT MOUTH OF CANYON, NEAR FORT COLLINS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT										
16...	5.05	.02	.00	.29	.29	.010	.010	.01	20	0
NOV										
29...	5.34	.10	.00	.08	.08	.000	.020	.01	30	4
DEC										
27...	35.4	.11	.00	.23	.23	.000	.000	.00	30	4
JAN										
25...	3.40	.18	.08	.15	.23	.020	.020	.02	20	3
FEB										
14...	2.38	.15	.02	.12	.14	.010	.020	.01	20	5
MAR										
14...	3.88	.05	.00	.06	.06	.010	--	.02	10	10
APR										
11...	15.5	.17	.03	.15	.18	.010	.020	.09	10	0
MAY										
10...	57.6	.29	.00	.01	.01	.030	.020	--	160	10
JUN										
21...	165	.01	.00	.27	.27	.010	.000	--	100	0
JUL										
25...	41.6	.03	.00	.12	.12	.240	.060	--	70	6
AUG										
15...	60.8	.11	.00	.33	.33	.010	.010	--	70	5
SEP										
27...	41.3	.04	.00	.38	.38	.320	.010	--	40	20

06752260 CACHE LA POUDRE RIVER AT FORT COLLINS, CO

LOCATION.--Lat 40°35'17", long 105°04'08", in NE¼SW¼ sec.12, T.7 N., R.69 W., Larimer County, on left bank 150 ft (46 m) downstream from Lincoln Ave. Bridge, and 2,200 ft (670 m) east of intersection of College Ave. (U.S. Highway 287) and Mountain Ave. in Fort Collins.

DRAINAGE AREA.--1,127 mi² (2,919 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1975 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,940 ft (1,506 m), from topographic map.

REMARKS.--Records good. Natural flow of stream affected by transmountain and transbasin diversions, storage reservoirs, power developments, diversion for municipal supply, diversions above station for irrigation, and return flow from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,700 ft³/s (161 m³/s) Aug. 1, 1976, gage height, 8.84 ft (2.694 m), from floodmarks, from rating curve extended above 1,200 ft³/s (34 m³/s), on basis of slope-area measurement of peak flow; minimum daily, 1.3 ft³/s (0.037 m³/s) Oct. 9-11, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,030 ft³/s (85.8 m³/s) at 0700 June 17, gage height, 6.98 ft (2.128 m); minimum daily, 1.3 ft³/s (0.037 m³/s) Oct. 9-11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	3.2	4.1	2.8	2.7	3.2	6.0	2.3	1360	590	15	144
2	1.6	2.9	4.5	2.7	2.6	3.2	4.2	37	944	518	12	91
3	1.4	2.8	3.9	2.8	2.6	3.2	5.0	52	782	432	46	25
4	1.8	2.7	5.4	3.0	3.6	3.2	6.4	53	594	330	106	5.6
5	1.7	2.7	3.3	2.9	4.1	3.2	5.8	71	530	303	42	6.0
6	1.7	3.0	3.0	2.8	3.9	4.2	5.2	82	795	520	18	3.0
7	1.4	5.4	2.7	2.8	3.5	4.7	4.6	112	1130	503	19	10
8	1.4	5.3	2.4	2.6	3.4	6.0	4.7	232	1510	89	24	22
9	1.3	4.6	2.2	2.5	4.1	5.1	4.7	248	1900	185	32	12
10	1.3	3.9	2.3	2.5	3.4	4.9	7.7	226	2030	90	93	9.6
11	1.3	3.8	2.2	2.5	3.7	4.6	16	220	2330	41	71	51
12	1.7	3.6	2.5	2.6	3.5	3.6	5.8	228	2120	46	23	100
13	2.2	3.4	2.6	2.7	3.5	3.6	5.0	179	2080	217	29	122
14	2.3	3.1	2.7	2.6	4.0	3.4	4.5	192	2220	268	74	97
15	2.1	3.0	3.0	2.8	3.3	3.4	4.1	219	2570	226	55	32
16	2.1	2.8	3.2	2.7	3.0	3.4	3.9	266	2620	88	144	6.7
17	2.5	3.4	3.2	2.7	3.0	3.3	4.5	395	2580	54	120	3.6
18	2.7	3.6	3.2	2.9	3.1	9.1	6.0	460	2360	39	30	4.9
19	2.8	3.6	4.0	3.6	3.2	10	4.6	480	2060	7.4	54	3.8
20	3.3	3.5	3.3	3.6	3.7	4.2	3.4	556	1610	32	22	10
21	5.3	3.0	3.2	3.5	3.8	6.1	3.1	605	1300	137	5.2	27
22	27	3.0	3.5	2.6	3.9	7.4	3.0	768	1150	86	5.2	39
23	3.8	3.5	4.0	2.8	4.1	4.7	3.2	850	990	40	12	40
24	3.4	3.5	4.2	2.8	4.7	4.9	3.1	1110	858	82	21	3.8
25	3.3	3.5	4.0	2.8	4.3	6.0	3.9	1340	581	74	18	2.8
26	3.2	3.4	4.1	2.7	3.2	9.3	11	1530	558	44	18	14
27	3.2	3.4	4.4	2.6	4.1	6.0	4.2	1680	518	53	8.5	57
28	3.1	3.7	4.2	2.6	3.1	5.1	3.0	1490	416	44	6.7	42
29	3.1	3.9	3.4	2.7	---	4.9	2.8	2080	460	44	8.5	29
30	3.2	3.9	3.0	2.5	---	5.2	2.9	2330	527	40	46	23
31	3.1	---	2.9	2.6	---	5.3	---	1700	---	12	98	---
TOTAL	99.9	105.1	104.6	86.3	99.1	154.4	152.3	19793.3	41483	5234.4	1276.1	1036.8
MEAN	3.22	3.50	3.37	2.78	3.54	4.98	5.08	638	1383	169	41.2	34.6
MAX	27	5.4	5.4	3.6	4.7	10	16	2330	2620	590	144	144
MIN	1.3	2.7	2.2	2.5	2.6	3.2	2.8	2.3	416	7.4	5.2	2.8
AC-FT	198	208	207	171	197	306	302	39260	82280	10380	2530	2060

CAL YR 1978 TOTAL 39319.3 MEAN 108 MAX 2430 MIN 1.3 AC-FT 77990
WTR YR 1979 TOTAL 69625.3 MEAN 191 MAX 2620 MIN 1.3 AC-FT 138100

06752260 CACHE LA POUDRE RIVER AT FORT COLLINS, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1975 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	NITRO-GEN, DIS-SOLVED (MG/L AS N)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT											
16...	1200	2.0	560	8.0	11.0	10.6	--	250	49	67	21
NOV											
29...	1233	4.5	580	8.2	4.5	12.2	--	260	67	71	21
DEC											
27...	1328	E7.6	650	8.0	1.0	12.0	--	240	90	77	23
JAN											
25...	1454	54	775	7.9	1.5	11.1	--	290	67	77	23
FEB											
14...	0747	3.4	670	8.1	1.0	9.6	1.9	280	75	74	22
MAR											
15...	1310	3.4	630	8.4	10.5	13.3	1.3	310	100	82	26
APR											
11...	1016	20	432	7.9	3.0	15.3	1.5	200	74	57	15
MAY											
10...	1010	225	215	8.0	5.0	10.0	.72	89	30	25	6.5
JUN											
21...	1033	1580	63	7.6	12.0	8.4	.43	25	9	7.4	1.6
JUL											
26...	0840	13	283	7.9	16.0	7.4	.90	110	27	28	8.6
AUG											
15...	1307	41	146	8.5	13.5	8.9	.40	60	17	17	4.3
SEP											
27...	1200	60	267	8.4	16.5	7.0	.48	110	22	32	7.8

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT											
16...	27	.7	3.6	250	0	210	90	15	.6	9.9	362
NOV											
29...	23	.6	2.9	240	0	200	94	16	.5	9.9	363
DEC											
27...	29	.7	3.0	240	0	200	120	15	.5	11	403
JAN											
25...	47	1.2	3.7	--	--	220	98	51	.5	11	450
FEB											
14...	30	.8	4.0	--	--	200	100	26	.4	10	393
MAR											
15...	26	.6	3.3	--	--	210	140	10	.5	7.5	426
APR											
11...	21	.6	2.6	--	--	130	93	12	.3	5.7	291
MAY											
10...	8.4	.4	1.6	--	--	59	34	3.5	.4	14	132
JUN											
21...	2.6	.2	.9	--	--	16	6.8	1.2	.2	8.4	39
JUL											
26...	14	.6	2.4	--	--	78	41	8.8	.3	7.9	161
AUG											
15...	7.4	.4	1.3	--	--	43	20	2.5	.2	7.9	88
SEP											
27...	7.8	.3	1.8	--	--	90	30	3.6	.5	8.7	147

E ESTIMATED.

06752260 CACHE LA POUDRE RIVER AT FORT COLLINS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT											
16...	.49	2.00	.98	.01	.63	.64	.020	.020	.04	30	40
NOV											
29...	.49	4.41	1.3	.00	.18	.18	1.00	.030	.01	50	50
DEC											
27...	.55	6.09	1.3	.01	.39	.40	.000	.000	.00	40	50
JAN											
25...	.61	65.6	1.5	.11	.42	.53	.050	.050	.01	20	80
FEB											
14...	.53	3.61	1.4	.15	.33	.48	.080	.040	.01	120	140
MAR											
15...	.58	3.91	1.0	.01	.28	.29	.020	.010	.01	70	70
APR											
11...	.40	15.7	.70	.07	.77	.84	1.30	1.10	.85	10	50
MAY											
10...	.18	80.2	.58	.00	.14	.14	.040	.020	--	90	10
JUN											
21...	.05	166	.09	.00	.34	.34	.010	.010	--	70	10
JUL											
26...	.22	5.45	.70	.00	.20	.20	.260	.070	--	60	30
AUG											
15...	.12	9.74	.24	.00	.16	.16	.010	.010	--	60	8
SEP											
27...	.29	23.8	.06	.00	.42	.42	.010	.000	--	50	10

06752270 CACHE LA POUDRE RIVER BELOW FORT COLLINS, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 40°34'01", long 105°01'36", in NW¼NE¼ sec.20, T.7 N., R.68 W., Larimer County, Hydrologic Unit 10190007, 1.4 mi (2.3 km) west of Interstate 25 on Prospect Street in Fort Collins.

PERIOD OF RECORD.--January to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	OXYGEN, DIS- SOLVED (MG/L)
OCT		
16...	1115	12.2
NOV		
29...	1201	13.7
DEC		
27...	1235	14.8
27...	1300	14.8
27...	1400	15.0
27...	1500	14.6
27...	1600	14.1
27...	1700	11.8
27...	1800	10.5
27...	1900	9.8
27...	2000	9.5
27...	2100	9.3
27...	2200	9.2
27...	2300	9.2
27...	2400	9.0
28...	0100	9.0
28...	0200	9.0
28...	0300	9.0
28...	0400	9.0
28...	0500	9.0
28...	0600	9.1
DEC		
28...	0700	9.1
28...	0800	9.2
28...	0900	10.6
28...	1000	12.2
28...	1100	12.5
28...	1200	14.2
28...	1239	14.5
JAN		
25...	1715	10.1
FEB		
14...	1115	11.4
MAR		
14...	1110	14.1
14...	1200	14.3
14...	1300	14.8
14...	1400	14.9
14...	1500	15.0
14...	1600	14.6
14...	1700	13.8
14...	1800	12.6
14...	1900	11.5
MAR		
14...	2000	10.9
14...	2100	10.9
14...	2200	10.9
14...	2300	10.9
14...	2400	11.0
15...	0100	11.0
15...	0200	11.0
15...	0300	11.1
15...	0400	11.1
15...	0500	11.2
15...	0600	11.2
15...	0700	11.4
15...	0800	11.9
15...	0900	12.9
15...	1000	13.9
15...	1100	14.8
15...	1155	15.2
APR		
11...	1250	10.2
MAY		
10...	1225	18.3
JUN		
21...	1445	8.2
JUL		
25...	1125	9.3
25...	1200	9.4
25...	1300	9.8
25...	1400	10.1
25...	1500	9.3
25...	1600	9.1
25...	1700	9.0
25...	1800	8.2
25...	1900	7.4
25...	2000	6.2
25...	2100	5.2
25...	2200	4.7
25...	2300	4.5
25...	2400	4.4
26...	0100	4.3
26...	0200	4.3
26...	0300	4.5
26...	0400	4.8
26...	0500	4.7

06752270 CACHE LA POUDRE RIVER BELOW FORT COLLINS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	OXYGEN, DIS-SOLVED (MG/L)
JUL		
26...	0600	4.9
26...	0700	5.4
26...	0800	6.1
26...	0900	7.5
26...	1000	9.1
26...	1050	11.1
26...	1100	10.4
26...	1200	11.2
JUL		
26...	1300	11.0
26...	1309	11.0
AUG		
15...	1101	9.9
SEP		
27...	1030	10.3

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	NITRO-GEN, DIS-SOLVED (MG/L AS N)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT											
16...	1115	E10	675	8.2	12.0	--	290	77	75	25	43
NOV											
29...	1201	E26	670	8.4	6.0	--	340	99	87	29	30
DEC											
27...	1235	E28	750	8.4	3.0	--	330	130	86	28	29
JAN											
25...	1715	4.9	775	8.5	2.0	--	340	98	86	30	33
FEB											
14...	1115	7.0	778	8.3	6.0	3.6	320	100	84	27	33
MAR											
15...	1155	5.4	730	8.6	7.0	2.4	350	110	88	31	32
APR											
11...	1250	18	425	8.1	5.5	1.7	200	73	55	16	18
MAY											
10...	1225	254	310	8.0	7.0	1.3	130	53	34	9.9	15
JUN											
21...	1445	E1930	80	7.6	14.5	.34	28	0	8.7	1.4	5.7
JUL											
26...	1050	44	867	8.5	21.0	1.3	330	230	70	37	61
AUG											
15...	1101	83	374	8.2	13.5	1.2	120	49	32	9.7	35
SEP											
27...	1030	12	760	8.4	15.5	3.0	310	95	81	25	55

E ESTIMATED.

06752270 CACHE LA POUDRE RIVER BELOW FORT COLLINS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
OCT											
16...	1.1	4.3	260	0	210	130	29	.8	11	459	.62
NOV											
29...	.7	2.1	290	0	240	120	21	.7	13	462	.63
DEC											
27...	.7	2.2	250	0	210	130	16	.6	13	443	.60
JAN											
25...	.8	2.4	--	--	240	130	20	.7	11	471	.64
FEB											
14...	.8	5.5	--	--	220	120	26	.5	11	451	.61
MAR											
15...	.7	2.9	--	--	240	150	16	.7	8.4	483	.66
APR											
11...	.6	2.4	--	--	130	92	9.4	.4	5.6	283	.38
MAY											
10...	.6	2.1	--	--	73	66	7.9	.4	14	198	.27
JUN											
21...	.5	1.0	--	--	32	8.6	1.9	.2	8.4	56	.08
JUL											
26...	1.5	4.2	--	--	98	320	19	.5	6.4	580	.79
AUG											
15...	1.4	2.5	--	--	71	64	31	.3	8.9	230	.31
SEP											
27...	1.4	4.4	--	--	210	140	44	.7	8.0	494	.67

DATE	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT										
16...	12.4	2.4	.92	.68	1.6	.760	.690	.68	20	40
NOV										
29...	31.8	3.6	.01	.32	.33	1.00	.020	.01	10	30
DEC										
27...	33.5	3.4	.00	.56	.56	.000	.000	.00	10	50
JAN										
25...	6.28	3.1	.02	.32	.34	.060	.030	.01	10	90
FEB										
14...	8.52	2.5	.37	.73	1.1	.160	.110	.05	40	120
MAR										
15...	7.06	2.2	.00	.21	.21	.020	.020	.01	0	120
APR										
11...	14.0	1.3	.12	.30	.42	.200	.050	.11	0	40
MAY										
10...	136	.90	.36	.01	.37	.090	.080	--	90	20
JUN										
21...	292	.11	.00	.23	.23	.030	.010	--	70	0
JUL										
26...	68.9	.75	.00	.56	.56	.260	.230	--	20	30
AUG										
15...	51.5	.83	.01	.36	.37	.260	.220	--	70	10
SEP										
27...	16.0	2.2	.01	.74	.75	.320	.290	--	60	10

06752300 CACHE LA POUDRE RIVER AT TIMNATH, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 40°30'51", long 104°59'35", in SE¼NW¼ sec.34, T.7 N., R.68 W., Larimer County, Hydrologic Unit 10190007, 3,000 ft (915 m) north of Boxelder Ditch at U.S. Highway 87 bridge in Timnath.

PERIOD OF RECORD.--January 1978 to October 1979 (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	OXYGEN, DIS- SOLVED (MG/L)
OCT		
16...	1045	11.8
NOV		
29...	1125	12.4
DEC		
27...	1106	11.5
27...	1200	11.6
27...	1300	12.1
27...	1400	12.5
27...	1500	12.8
27...	1600	12.9
27...	1700	12.5
27...	1800	11.9
27...	1900	11.5
27...	2000	10.9
27...	2100	10.6
27...	2200	10.4
27...	2300	10.3
27...	2400	10.3
28...	0100	10.2
28...	0200	10.2
28...	0300	10.1
28...	0400	10.0
28...	0500	9.9
28...	0600	9.9
DEC		
28...	0700	9.9
28...	0800	9.9
28...	0900	10.1
28...	1000	10.7
28...	1100	11.3
28...	1106	11.4
JAN		
25...	1644	11.1
FEB		
13...	1345	10.3
APR		
11...	1450	12.9
MAY		
10...	1430	9.7
JUN		
21...	1340	7.8
JUL		
25...	1000	8.6
25...	1100	9.1
25...	1200	9.9
25...	1300	10.4
25...	1400	10.8
25...	1500	11.0
JUL		
25...	1600	10.8
25...	1700	10.6
25...	1800	10.2
25...	1900	8.6
25...	2000	7.3
25...	2100	6.0
25...	2200	5.4
25...	2300	5.1
25...	2400	4.9
26...	0100	5.0
26...	0200	5.0
26...	0300	5.2
26...	0400	5.2
26...	0500	5.4
JUL		
26...	0600	5.7
26...	0700	5.7
26...	0800	6.4
26...	0900	7.4
26...	1000	8.6
26...	1100	9.2
26...	1200	10.2
26...	1215	8.2
26...	1228	10.5
AUG		
15...	0934	6.9
SEP		
27...	0910	6.8

06752300 CACHE LA POUDRE RIVER AT TIMNATH, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	NITROGEN, DISSOLVED (MG/L AS N)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)
OCT											
16...	1045	E15	2200	8.0	10.5	--	1100	890	270	110	130
NOV											
29...	1125	E18	2380	8.1	3.0	--	1200	980	290	110	120
DEC											
27...	1106	E7.6	2400	7.9	.0	--	1100	850	270	110	140
JAN											
25...	1644	8.0	2000	8.0	.0	--	1200	930	290	110	130
FEB											
13...	1345	8.7	2200	8.0	3.5	6.8	1100	860	270	95	120
MAR											
15...	1020	12	2250	8.0	6.0	4.7	1200	990	290	120	120
APR											
11...	1450	22	1805	8.3	6.0	3.7	1000	850	260	97	110
MAY											
10...	1430	280	545	8.0	9.0	1.7	220	130	55	21	30
JUN											
21...	1340	E3120	150	7.7	15.5	.45	52	28	14	4.2	7.1
JUL											
26...	1215	30	2000	8.3	22.0	3.5	980	790	240	93	120
AUG											
15...	0934	37	1510	8.0	14.5	3.4	750	570	170	78	110
SEP											
27...	0910	29	1800	8.1	14.0	3.7	740	530	180	70	86

DATE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)
OCT											
16...	1.7	6.6	290	0	240	1100	28	1.3	1.1	1810	2.46
NOV											
29...	1.5	6.5	240	0	200	1200	38	1.1	13	1920	2.61
DEC											
27...	1.8	7.6	340	0	280	1100	32	1.1	14	1870	2.54
JAN											
25...	1.7	6.3	--	--	250	1100	30	1.0	14	1850	2.52
FEB											
13...	1.6	9.1	--	--	210	960	33	.9	13	1650	2.24
MAR											
15...	1.5	6.5	--	--	230	1100	30	1.0	9.7	1830	2.49
APR											
11...	1.5	4.9	--	--	200	970	24	.9	8.4	1610	2.19
MAY											
10...	.9	3.0	--	--	92	190	11	.4	14	386	.53
JUN											
21...	.4	1.0	--	--	24	32	2.3	.2	8.6	85	.12
JUL											
26...	1.7	5.9	--	--	190	1000	40	.9	10	1640	2.23
AUG											
15...	1.8	4.9	--	--	180	750	24	.7	13	1270	1.73
SEP											
27...	1.4	5.4	--	--	210	790	22	.9	11	1300	1.77

E ESTIMATED.

06752300 CACHE LA POUDRE RIVER AT TIMNATH, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
OCT 16...	73.3	4.0	.35	.75	1.1	.330	.340	.14	50	60
NOV 29...	90.7	4.8	.01	1.3	1.3	.360	.360	.34	10	80
DEC 27...	38.4	6.1	.25	.59	.84	.120	.110	.00	30	60
JAN 25...	40.1	4.7	1.7	.40	2.1	.610	.570	.43	10	70
FEB 13...	38.8	4.0	1.8	1.0	2.8	.600	.560	.47	30	100
MAR 15...	60.3	3.4	.94	.40	1.3	.330	.310	.24	30	120
APR 11...	95.6	2.7	.52	.48	1.0	.270	.200	.22	0	70
MAY 10...	292	1.2	.39	.10	.49	.120	.100	--	80	30
JUN 21...	717	.15	.01	.29	.30	.030	.030	--	90	10
JUL 26...	133	3.1	.36	.07	.43	.210	.150	--	10	80
AUG 15...	127	2.3	.49	.61	1.1	.160	.170	--	10	70
SEP 27...	102	2.7	.21	.79	1.0	.200	.170	--	40	50

06752500 CACHE LA POUDRE RIVER NEAR GREELEY, CO

LOCATION.--Lat 40°25'04", long 104°38'22", in NW¼ sec.11, T.5 N., R.65 W., Weld County, Hydrologic Unit 10190007, on right bank 25 ft (8 m) downstream from highway bridge, 2.9 mi (4.7 km) east of courthouse in Greeley, and 3.0 mi (4.8 km) upstream from mouth.

DRAINAGE AREA.--1,877 mi^2 (4,861 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March to October 1903, August to November 1904, January 1914 to December 1919, June 1924 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1440: 1935, 1938(M), 1942-43. WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 4,610 ft (1,405 m), from topographic map. See WSP 1710 or 1730 for history of changes prior to Dec. 14, 1933.

REMARKS.--Records good. Natural flow of stream affected by transmountain and transbasin diversions, storage reservoirs, power developments, diversion for municipal supply, diversions above station for irrigation of about 250,000 acres (1,010 km^2), and return flow from irrigated areas.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--60 years (water years 1915-19, 1925-79), 107 ft^3/s (3.030 m^3/s), 77,520 acre-ft/yr (95.6 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 4,220 ft^3/s (120 m^3/s) June 24, 26, 1917; minimum daily, 0.8 ft^3/s (0.023 m^3/s) Oct. 3, 1946.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,870 ft^3/s (81.3 m^3/s) at 1000 June 18, gage height, 7.80 ft (2.377 m); minimum daily, 29 ft^3/s (0.82 m^3/s) July 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52	140	90	73	76	98	150	86	1860	241	87	106
2	53	113	80	73	73	101	144	154	1500	335	87	98
3	52	109	80	72	69	94	113	205	1180	286	74	98
4	60	113	86	73	69	94	99	178	1010	191	65	102
5	57	111	92	73	70	96	96	150	778	154	57	132
6	56	109	81	73	73	96	93	152	617	121	51	148
7	45	114	70	73	73	96	90	194	836	106	40	158
8	41	114	65	72	74	101	81	337	1290	106	34	130
9	43	113	71	72	74	99	84	517	1600	87	41	100
10	37	111	76	73	77	94	94	505	1840	81	247	62
11	40	111	80	74	77	90	136	478	2000	61	217	62
12	42	109	83	74	86	90	123	436	2190	33	134	53
13	51	113	86	74	101	87	148	410	2100	32	93	64
14	64	113	86	73	109	84	158	366	2030	29	154	96
15	88	109	84	73	121	84	142	366	2190	36	196	116
16	96	104	81	73	96	83	134	345	2550	52	178	81
17	99	104	80	73	90	83	118	380	2760	49	150	73
18	116	96	83	74	88	101	111	458	2800	62	159	77
19	125	92	86	77	94	108	109	514	2590	81	371	62
20	121	94	83	76	99	120	106	542	2280	76	427	49
21	111	90	83	73	94	132	104	659	1790	69	502	52
22	229	90	83	74	99	167	106	687	1440	58	438	90
23	200	88	83	67	99	152	108	836	1180	50	396	116
24	174	90	81	73	99	138	106	984	1100	70	371	118
25	180	90	78	74	93	142	127	1310	796	65	361	129
26	167	88	77	74	90	146	114	1460	508	84	364	140
27	172	86	76	71	92	150	109	1660	327	88	348	154
28	172	84	77	70	92	138	102	1840	275	80	286	142
29	169	86	71	76	---	113	64	1810	183	70	194	130
30	174	90	70	76	---	109	76	2070	154	60	158	138
31	163	---	73	74	---	136	---	2220	---	77	130	---
TOTAL	3249	3074	2475	2270	2447	3422	3345	22309	43754	2990	6410	3076
MEAN	105	102	79.8	73.2	87.4	110	112	720	1458	96.5	207	103
MAX	229	140	92	77	121	167	158	2220	2800	335	502	158
MIN	37	84	65	67	69	83	64	86	154	29	34	49
AC-FT	6440	6100	4910	4500	4850	6790	6630	44250	86790	5930	12710	6100

CAL YR 1978 TOTAL 47843 MEAN 131 MAX 1980 MIN 20 AC-FT 94900
WTR YR 1979 TOTAL 98821 MEAN 271 MAX 2800 MIN 29 AC-FT 196000

06752500 CACHE LA POUDRE RIVER NEAR GREELEY, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1951 to September 1952, August 1954 to August 1956, December 1963 to September 1966, October 1967 to September 1968, October 1970 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT 17...	1200	68	1610	8.1	12.0	9.3	540	300	110
NOV 28...	1400	56	1820	8.0	7.0	--	750	470	160
DEC 28...	1335	48	1800	7.8	6.0	10.6	780	500	160
JAN 25...	1005	43	2000	8.0	3.0	11.3	840	550	180
FEB 12...	1122	78	1840	7.9	4.5	12.7	760	520	160
MAR 29...	0826	96	1800	8.0	10.0	8.5	790	530	170
APR 10...	1220	81	1770	8.0	10.5	9.7	820	570	190
MAY 09...	1113	495	900	8.1	6.5	8.9	340	210	66
JUN 20...	1007	1940	315	7.9	13.0	8.6	110	61	26
JUL 10...	1034	104	1600	7.8	20.0	6.0	660	420	150
AUG 14...	1140	142	1510	8.1	16.0	6.0	660	430	140
SEP 28...	0750	198	2140	7.9	15.0	7.2	890	600	160

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
OCT 17...	64	110	2.1	4.8	290	0	240	460	38
NOV 28...	86	140	2.2	7.7	340	0	280	720	45
DEC 28...	93	130	2.0	8.9	340	0	280	710	48
JAN 25...	94	140	2.1	9.7	--	--	290	790	42
FEB 12...	88	130	2.1	8.9	--	--	240	720	36
MAR 29...	89	130	2.0	8.3	--	--	260	730	43
APR 10...	85	120	1.8	7.5	--	--	250	700	38
MAY 09...	42	66	1.6	8.9	--	--	130	320	23
JUN 20...	11	19	.8	1.7	--	--	49	86	5.3
JUL 10...	70	100	1.7	9.3	--	--	240	560	36
AUG 14...	76	110	1.9	7.1	--	--	230	610	33
SEP 28...	120	170	2.5	5.0	--	--	290	940	23

06752500 CACHE LA POUDRE RIVER NEAR GREELEY, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT 17...	1.4	6.1	954	176	3.8	.580	--	30	70
NOV 28...	.9	13	1350	206	1.1	.900	.84	30	120
DEC 28...	1.0	14	1360	178	6.0	.850	--	50	130
JAN 25...	.9	14	1470	171	6.6	1.00	--	30	190
FEB 12...	.9	13	1350	284	11	.990	--	20	170
MAR 29...	1.0	10	1360	353	5.4	.800	--	30	130
APR 10...	1.0	9.9	1330	292	6.0	.800	.61	40	150
MAY 09...	.6	11	630	842	3.1	.310	--	60	100
JUN 20...	.3	8.1	189	990	.37	.080	--	90	20
JUL 10...	.8	14	1110	312	4.7	.010	--	10	250
AUG 14...	.8	15	1150	441	4.8	.910	--	30	110
SEP 28...	1.1	9.0	1620	866	3.0	.170	--	30	90

06754000 SOUTH PLATTE RIVER NEAR KERSEY, CO

LOCATION.--Lat 40°24'44", long 104°33'46", in NW¼SW¼ sec.9, T.5 N., R.64 W., Weld County, Hydrologic Unit 10190003, on downstream side of bridge on State Highway 37, 1.9 mi (3.1 km) north of railroad in Kersey, and 2.5 mi (4.0 km) downstream from Cache la Poudre River.

DRAINAGE AREA.--9,598 mi^2 (24,859 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1901 to December 1903, March 1905 to current year. Monthly discharge only for some periods, published in WSP 1310. Publisned as "at Kersey" 1901-3.

REVISED RECORDS.--WSP 1310: 1902, 1906, 1935(M). WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4,575.77 ft (1,394.695 m) National Geodetic Vertical Datum of 1929. See WSP 1710 or 1730 for history of changes prior to July 3, 1935.

REMARKS.--Records good except those for winter period, which are fair. Natural flow of stream affected by transmountain and transbasin diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation of about 884,000 acres (3,590 km^2), and return flow from irrigated areas.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--71 years (water years 1902-03, 1906-74), 777 ft^3/s (22.00 m^3/s), 562,900 acre-ft/yr (694 hm^3/yr), prior to completion of Chatfield Dam; 5 years (water years 1975-79), 797 ft^3/s (22.57 m^3/s), 577,400 acre-ft/yr (712 hm^3/yr), subsequent to completion of Chatfield Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,500 ft^3/s (892 m^3/s) May 8, 1973, gage height, 11.73 ft (3.575 m); minimum daily, 28 ft^3/s (0.79 m^3/s) Apr. 30, 1955.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14,600 ft^3/s (413 m^3/s) at 1000 June 10, gage height, 9.34 ft (2.847 m); minimum daily, 291 ft^3/s (8.24 m^3/s) Aug. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	355	781	722	410	428	756	781	485	6240	1170	422	444
2	350	747	722	400	461	747	806	674	4960	1120	406	400
3	360	706	682	460	497	706	730	3410	4130	924	370	395
4	350	706	629	420	503	690	690	2990	3550	587	350	395
5	395	690	690	520	509	698	666	1920	2890	461	335	390
6	406	666	714	540	497	674	615	1570	2560	411	310	406
7	416	658	608	560	541	690	574	1390	3120	772	305	433
8	406	650	515	520	554	682	554	1650	5900	1240	300	467
9	411	636	535	500	554	690	528	2890	12000	1100	291	428
10	411	615	555	520	567	706	534	3730	14300	815	867	375
11	428	629	575	550	567	682	629	3550	12500	567	2460	385
12	416	643	600	570	601	674	1220	3120	11800	485	1420	428
13	422	674	629	560	666	650	1210	3030	11200	491	714	461
14	444	674	643	530	722	636	1000	2850	11100	461	674	750
15	461	682	629	530	815	629	806	2750	12200	400	1440	850
16	473	674	629	534	674	636	730	2560	13100	416	1620	800
17	497	658	622	567	615	643	682	2460	13200	433	1920	750
18	541	650	636	587	594	666	706	2690	13100	509	2430	730
19	548	636	674	601	594	798	690	2940	12700	574	2690	722
20	548	636	682	601	594	878	772	3080	11500	515	3670	666
21	548	636	636	580	587	842	798	3510	9610	390	3570	650
22	824	650	629	574	574	905	747	3310	7760	340	2360	690
23	1920	643	615	479	567	990	738	3050	6070	340	1830	722
24	1610	629	601	497	554	1060	747	3510	5500	400	1580	706
25	1180	636	601	567	534	1050	756	3650	4870	390	1340	706
26	1020	636	580	560	534	981	869	2540	4030	390	1180	706
27	981	698	554	467	587	943	747	3160	2970	416	1070	666
28	934	730	594	411	714	833	658	3780	2040	365	1130	608
29	896	722	560	433	---	747	622	4400	1760	315	806	587
30	851	730	500	433	---	730	522	5150	1390	300	636	580
31	815	---	460	428	---	756	---	6560	---	355	515	---
TOTAL	20217	20121	19021	15909	16204	23768	22127	92359	228050	17452	39011	17296
MEAN	652	671	614	513	579	767	738	2979	7602	563	1258	577
MAX	1920	781	722	601	815	1060	1220	6560	14300	1240	3670	850
MIN	350	615	460	400	428	629	522	485	1390	300	291	375
AC-FT	40100	39910	37730	31560	32140	47140	43890	183200	452300	34620	77380	34310

CAL YR 1978 TOTAL 244889 MEAN 671 MAX 4400 MIN 88 AC-FT 485700
WTR YR 1979 TOTAL 531535 MEAN 1456 MAX 14300 MIN 291 AC-FT 1054000

06754000 SOUTH PLATTE RIVER NEAR KERSEY, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1949 to September 1953, August 1954 to August 1957, June 1962 to September 1970, October 1976 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: December 1950 to September 1953.
WATER TEMPERATURE: December 1950 to September 1953.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 1,850 micromhos Nov. 29, 30, 1952; minimum daily, 388 micromhos June 11, 1952.
WATER TEMPERATURES: Maximum, 22.0°C Aug. 1, 2, 6, 1951; minimum, freezing point on many days during winter months each year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	TEMPER-ATURE (DEG C)	DATE	TIME	TEMPER-ATURE (DEG C)
OCT			APR		
17...	1245	12.0	10...	1255	10.0
NOV			MAY		
29...	0926	2.5	09...	1202	5.5
DEC			JUN		
19...	1218	2.0	20...	1043	14.5
19...	1255	2.0	JUL		
JAN			10...	1120	22.0
16...	1200	2.0	16...	1315	21.5
26...	1140	.5	AUG		
FEB			14...	1107	16.5
06...	1415	1.0	21...	1140	23.0
12...	1155	2.0	SEP		
14...	1640	3.0	26...	1300	19.0
MAR					
06...	1055	7.0			
28...	1454	14.0			

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT										
17...	1245	406	1880	8.1	12.0	9.5	680	400	150	73
NOV										
29...	0926	650	1450	7.8	2.5	9.7	480	280	110	51
DEC										
19...	1218	574	1490	7.9	2.0	9.4	490	280	110	52
JAN										
26...	1140	658	1600	7.9	.5	9.9	540	380	120	58
FEB										
12...	1155	528	1530	7.8	2.0	11.0	540	340	120	58
MAR										
28...	1454	690	1680	8.0	14.0	7.4	620	390	140	65
APR										
10...	1255	422	1400	8.0	10.0	9.4	690	440	160	70
MAY										
09...	1202	2670	1100	7.9	5.5	7.8	370	230	80	41
JUN										
20...	1043	11200	370	7.7	14.5	7.3	120	66	31	11
JUL										
10...	1120	643	1140	8.0	22.0	6.4	420	250	90	47
AUG										
14...	1107	560	1480	8.0	16.5	6.8	570	350	120	65
SEP										
26...	1300	567	1560	8.0	19.0	7.6	590	350	130	64

06754000 SOUTH PLATTE RIVER NEAR KERSEY, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)
OCT 17...	150	2.5	8.0	330	0	270	690	75	1.3	14
NOV 29...	140	2.8	7.4	250	0	210	450	73	1.1	13
DEC 19...	120	2.4	7.8	250	0	210	450	63	1.1	12
JAN 26...	140	2.6	7.7	--	--	240	490	65	1.1	14
FEB 12...	120	2.3	7.6	--	--	200	480	70	1.1	13
MAR 28...	150	2.6	8.0	--	--	230	560	72	1.2	10
APR 10...	150	2.5	2.0	--	--	250	590	61	1.1	9.1
MAY 09...	85	1.9	8.2	--	--	140	340	40	.8	11
JUN 20...	26	1.0	2.4	--	--	57	95	13	.4	8.4
JUL 10...	97	2.1	5.7	--	--	170	390	42	.9	13
AUG 14...	130	2.4	6.1	--	--	220	560	56	.9	14
SEP 26...	140	2.5	7.5	--	--	240	520	52	1.1	13

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	PHOSPHORUS, DISSOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	ALGAL GROWTH POTENTIAL, BOTTLE TEST (MG/L)
OCT 17...	1340	1.82	1470	4.6	.290	--	10	20	56
NOV 29...	997	1.36	1750	5.4	1.60	1.5	20	110	383
DEC 19...	969	1.32	1500	6.7	.960	--	20	120	11
JAN 26...	1060	1.44	1880	5.0	1.30	--	20	170	130
FEB 12...	1010	1.37	1440	4.7	1.10	--	20	180	271
MAR 28...	1170	1.59	2180	5.8	.970	--	40	220	49
APR 10...	1220	1.66	1390	5.8	.880	.68	0	130	201
MAY 09...	711	.97	5130	4.6	.580	--	60	120	148
JUN 20...	226	.31	6830	1.0	.180	--	10	20	42
JUL 10...	810	1.10	1410	4.9	.720	--	10	40	110
AUG 14...	1100	1.50	1660	4.2	.510	--	30	30	623
SEP 26...	1090	1.48	1670	4.9	.690	--	30	30	--

06756995 SOUTH PLATTE RIVER AT MASTERS, CO

LOCATION.--Lat 40°18'22", long 104°14'40", in SE¼ sec.18, T.4 N., R.61 W., Weld County, Hydrologic Unit 10190003, on right bank at bridge on Weld County Road 87, 1.0 mi (1.6 km) north of U.S. Highway 34 at Masters.

DRAINAGE AREA.--12,119 mi² (31,595 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1976 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,450 ft (1,356 m), from topographic map.

REMARKS.--Records good except those for winter period and period of no gage-height record, which are poor. Natural flow of stream affected by transmountain, transbasin, and storage diversions, power developments, ground-water withdrawals and diversions for irrigation, and return flows from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,700 ft³/s (303 m³/s) June 10, 1979, gage height, 9.51 ft (2.899 m) from highwater mark; minimum daily, 3.5 ft³/s (0.099 m³/s) Mar. 16, 18, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,700 ft³/s (303 m³/s) June 10, gage height, 9.51 ft (2.899 m) from highwater mark; minimum daily, 7.2 ft³/s (0.20 m³/s) Apr. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	261	390	91	292	450	34	10	120	5050	793	420	520
2	272	326	111	313	470	29	9.0	120	4430	702	450	460
3	296	300	140	344	480	26	9.0	300	3610	570	430	416
4	309	288	186	420	490	23	9.0	1400	3240	425	388	393
5	317	194	218	488	500	21	8.5	1400	2720	400	370	388
6	381	165	272	494	520	20	8.0	1100	2320	370	348	407
7	381	149	339	500	530	19	8.0	900	2220	350	331	411
8	470	138	350	500	540	19	7.2	700	3220	599	339	430
9	488	155	360	459	550	18	7.5	800	5960	835	348	435
10	536	168	370	464	560	17	8.0	1000	7000	700	486	388
11	530	168	380	500	580	17	9.0	2000	9400	540	1460	366
12	506	181	390	506	600	18	38	1900	7600	440	1540	393
13	494	177	400	506	648	16	447	1800	6600	445	1090	416
14	506	174	420	510	662	15	461	1700	6400	465	821	581
15	536	174	430	510	610	13	257	1700	6200	455	1020	758
16	542	171	440	520	616	13	221	1700	6600	450	1680	835
17	560	162	460	550	536	12	130	1680	7000	450	1670	772
18	390	140	470	662	410	14	102	1720	6800	510	2000	737
19	362	130	480	616	334	14	124	1650	6600	560	2400	689
20	261	127	500	572	242	14	146	1660	6000	611	3000	653
21	197	127	510	548	171	15	170	1600	5400	555	3700	671
22	235	127	524	500	149	22	200	1800	4900	540	2430	689
23	428	127	470	494	87	24	210	1780	4400	480	1820	737
24	753	116	426	482	56	25	200	1720	4000	500	1500	683
25	415	109	405	536	49	21	170	1820	3800	520	1290	659
26	357	119	386	524	43	18	150	2090	3400	480	1130	647
27	426	111	366	494	36	16	130	2180	2780	490	1000	617
28	420	107	376	410	31	16	170	2460	1920	500	1090	560
29	432	93	357	426	---	12	150	2620	1300	440	863	555
30	426	93	276	430	---	11	140	2850	1050	390	730	525
31	400	---	280	440	---	10	---	4150	---	390	605	---
TOTAL	12887	5006	11183	14970	10950	562	3709.2	50420	141960	15955	36749	16791
MEAN	416	167	361	483	391	18.1	124	1626	4732	515	1185	560
MAX	753	390	524	662	662	34	461	4150	9400	835	3700	835
MIN	197	93	91	292	31	10	7.2	120	1050	350	331	366
AC-FT	25560	9930	22180	29690	21720	1110	7360	100000	281600	31650	72890	33300

CAL YR 1978 TOTAL 132481.0 MEAN 363 MAX 3780 MIN 3.5 AC-FT 262800
WTR YR 1979 TOTAL 321142.2 MEAN 880 MAX 9400 MIN 7.2 AC-FT 637000

NOTE.--NO GAGE-HEIGHT RECORD JUNE 10-26.

06756995 SOUTH PLATTE RIVER AT MASTERS, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1976 to current year (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	TEMPER-ATURE (DEG C)	DATE	TIME	TEMPER-ATURE (DEG C)
OCT			APR		
17...	1430	12.0	24...	1352	17.5
NOV			MAY		
29...	0820	2.5	23...	0825	14.5
DEC			JUN		
19...	1114	.5	13...	0952	14.0
JAN			JUL		
26...	1039	.5	11...	0825	19.5
FEB			AUG		
12...	1344	2.5	14...	0932	17.0
MAR			SEP		
28...	1336	16.0	26...	1210	18.5

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT									
17...	1430	550	1670	8.3	12.0	8.1	630	380	130
NOV									
29...	0820	98	1580	7.9	2.5	9.8	560	310	130
DEC									
19...	1114	751	1530	7.9	.5	9.4	540	310	120
JAN									
26...	1039	400	1600	8.0	.5	9.9	570	330	130
FEB									
12...	1344	683	1210	7.8	2.5	10.7	560	350	130
MAR									
28...	1336	16	1650	8.2	16.0	13.3	620	380	150
APR									
24...	1352	261	1370	8.2	17.5	9.0	530	300	120
MAY									
23...	0825	1781	750	7.8	14.5	7.5	300	190	71
JUN									
13...	0952	E1484	555	7.8	14.0	--	190	94	47
JUL									
11...	0825	542	1260	8.1	19.5	6.7	460	270	110
AUG									
14...	0932	807	1490	8.1	17.0	6.8	550	320	120
SEP									
26...	1210	767	1620	8.2	18.5	8.6	590	340	130

E ESTIMATED.

06756995 SOUTH PLATTE RIVER AT MASTERS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)
OCT									
17...	75	110	1.9	7.9	310	0	250	630	41
NOV									
29...	57	150	2.8	7.1	300	0	250	530	72
DEC									
19...	58	140	2.6	7.6	280	0	230	510	65
JAN									
26...	59	140	2.6	7.3	--	--	240	510	63
FEB									
12...	56	130	2.4	6.7	--	--	210	480	72
MAR									
28...	60	150	2.6	7.6	--	--	240	560	67
APR									
24...	56	150	2.8	6.8	--	--	230	500	67
MAY									
23...	30	61	1.5	4.1	--	--	110	280	26
JUN									
13...	17	43	1.4	3.9	--	--	93	150	18
JUL									
11...	44	91	1.9	6.4	--	--	190	390	28
AUG									
14...	60	140	2.6	6.7	--	--	230	500	59
SEP									
26...	64	140	2.5	7.2	--	--	250	520	56

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER DAY)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	PHOSPHORUS, DISSOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
OCT									
17...	1.2	7.9	1170	1740	4.0	.630	--	20	100
NOV									
29...	1.0	14	1130	299	4.8	.640	.60	10	80
DEC									
19...	1.0	14	1080	2190	5.0	.660	--	10	70
JAN									
26...	1.0	14	1090	1350	5.2	.970	--	10	50
FEB									
12...	1.0	12	1050	1940	7.1	.790	--	20	70
MAR									
28...	1.0	10	1160	50.1	2.8	.240	--	20	130
APR									
24...	1.0	12	1070	754	4.1	.600	--	10	60
MAY									
23...	.7	9.7	558	2680	2.1	.320	--	30	20
JUN									
13...	.6	11	352	7110	1.2	.220	--	50	20
JUL									
11...	1.0	13	813	1190	3.4	.390	--	10	20
AUG									
14...	1.0	14	1060	2310	3.6	.370	--	10	20
SEP									
26...	1.1	13	1100	2280	4.7	.560	--	30	20

06758500 SOUTH PLATTE RIVER NEAR WELDONA, CO

LOCATION.--Lat 40°19'19", long 103°55'17", in SW¼SW¼ sec.7, T.4 N., R.58 W., Morgan County, Hydrologic Unit 10190003, on left bank 400 ft (120 m) downstream from bridge on State Highway 144, 2.8 mi (4.5 km) southeast of Weldona, and 4.2 mi (6.8 km) upstream from Bijou Creek.

DRAINAGE AREA.--13,245 mi² (34,305 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1952 to current year.

REVISED RECORDS.--WSP 1710: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4,307.80 ft (1,313.017 m), National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for winter period, which are poor. Natural flow of stream affected by transmountain and transbasin diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas.

AVERAGE DISCHARGE.--22 years (water years 1953-74), 572 ft³/s (16.20 m³/s), 414,400 acre-ft/yr (511 hm³/yr), prior to completion of Chatfield Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,800 ft³/s (759 m³/s) May 8, 1973, gage height, 11.68 ft (3.560 m), from rating curve extended above 16,000 ft³/s (453 m³/s); minimum daily, 39 ft³/s (1.10 m³/s) May 19, 1972.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,800 ft³/s (306 m³/s) June 11, gage height, 9.02 ft (2.749 m); minimum daily, 68 ft³/s (1.93 m³/s) Apr. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	222	470	184	320	490	181	97	135	4000	895	368	528
2	237	380	184	340	510	178	98	126	4020	683	412	491
3	264	360	201	400	520	170	93	184	3100	572	392	443
4	294	340	245	450	540	161	91	1570	2640	485	325	412
5	302	290	312	520	550	155	86	1650	2220	397	285	407
6	353	250	320	570	560	148	84	1220	1910	316	273	412
7	372	220	210	570	580	145	84	1030	1770	245	269	418
8	428	200	181	570	600	148	80	839	2430	330	269	454
9	470	210	200	530	610	148	75	1030	3850	528	307	491
10	485	220	220	510	630	145	68	1970	6850	464	701	491
11	496	230	240	520	650	140	79	2390	9950	372	955	485
12	496	250	260	580	670	140	79	2270	9350	290	1780	518
13	550	250	280	570	740	142	142	2010	7970	298	1390	512
14	550	240	310	570	750	142	418	1910	7310	307	1080	470
15	566	230	340	570	700	140	307	1770	7050	294	1120	623
16	588	230	370	570	690	140	250	1720	7480	281	1590	770
17	629	222	400	570	630	140	215	1700	8150	338	1710	770
18	572	218	430	740	570	152	170	1760	8220	358	2200	732
19	480	201	470	700	507	161	150	1740	8480	382	2600	725
20	454	198	520	640	433	155	164	1710	8150	423	3400	707
21	320	191	570	620	368	155	191	1700	7310	407	3850	683
22	353	194	600	560	334	170	264	1940	5990	334	3270	707
23	443	194	540	480	302	178	269	1880	4800	320	2290	732
24	804	187	490	530	248	184	260	1720	3650	320	1800	725
25	665	187	450	570	191	184	208	1790	3490	343	1510	677
26	480	194	430	560	170	167	164	2020	3120	353	1290	653
27	491	194	410	540	175	140	148	2150	2480	363	1100	623
28	518	194	420	440	184	108	215	2200	1860	402	970	583
29	520	194	400	450	---	106	194	2340	1260	377	860	556
30	520	184	300	470	---	98	155	2410	1070	330	764	539
31	500	---	310	480	---	97	---	2950	---	334	629	---
TOTAL	14422	7122	10797	16510	13902	4618	4898	51834	149930	12141	39759	17337
MEAN	465	237	348	533	497	149	163	1672	4998	392	1283	578
MAX	804	470	600	740	750	184	418	2950	9950	895	3850	770
MIN	222	184	181	320	170	97	68	126	1070	245	269	407
AC-FT	28610	14130	21420	32750	27570	9160	9720	102800	297400	24080	78860	34390

CAL YR 1978 TOTAL 128228 MEAN 351 MAX 2550 MIN 50 AC-FT 254300
WTR YR 1979 TOTAL 343270 MEAN 940 MAX 9950 MIN 68 AC-FT 680900

06758500 SOUTH PLATTE RIVER NEAR WELDONA, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1967 to September 1968, October 1971 to September 1978, October 1978 to March 1979.

PERIOD OF DAILY RECORD.--
SUSPENDED SEDIMENT DISCHARGE: March 1977 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily, 4,000 mg/L May 3, 1977; minimum daily, 8 mg/L Oct. 14, 1977.
SEDIMENT LOADS: Maximum daily, 11,400 tons (10,300 t) May 3, 1977; minimum daily, 1.9 tons (1.7 t) Apr. 12, 1978.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily, 450 mg/L Feb. 13; minimum daily, 12 mg/L Oct. 3, 6.
SEDIMENT LOADS: Maximum daily, 899 tons (816 t) Feb. 13; minimum daily, 7.0 tons (6.4 t) Feb. 27.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)
OCT										
18...	0940	623	1800	8.4	10.0	8.6	660	400	200	38
NOV										
22...	1253	184	2190	8.3	7.0	14.0	890	600	210	89
DEC										
19...	0854	725	1700	8.0	.0	18.0	620	370	140	65
JAN										
26...	0905	334	1550	8.0	.0	11.0	590	350	140	59
FEB										
13...	0934	E556	1570	7.6	.5	10.0	550	340	130	56
MAR										
28...	1148	115	1770	8.4	15.0	12.4	680	440	170	61
APR										
24...	1217	277	1410	8.3	17.0	11.0	560	330	130	58
MAY										
22...	1420	1940	840	8.1	18.5	7.0	320	190	76	33
JUN										
13...	1052	7650	640	7.9	20.5	--	220	120	55	20
JUL										
11...	0937	245	1350	8.3	21.0	7.2	490	290	120	45
AUG										
14...	0755	825	1500	8.3	18.0	6.6	550	340	120	61
SEP										
26...	1100	501	1700	8.4	17.5	8.2	620	380	140	65

DATE	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
OCT									
18...	130	2.2	9.4	310	1	260	620	61	1.3
NOV									
22...	190	2.8	8.8	350	0	290	850	86	1.1
DEC									
19...	170	3.0	8.3	300	0	250	580	71	1.1
JAN									
26...	140	2.5	7.5	--	--	240	530	63	1.0
FEB									
13...	130	2.4	6.6	--	--	210	480	72	.9
MAR									
28...	160	2.7	8.0	--	--	240	640	72	1.0
APR									
24...	160	2.9	7.2	--	--	230	530	70	1.1
MAY									
22...	75	1.8	4.9	--	--	130	280	34	.8
JUN									
13...	50	1.5	5.0	--	--	100	200	20	.6
JUL									
11...	120	2.4	6.8	--	--	200	460	51	1.0
AUG									
14...	150	2.8	7.1	--	--	210	560	69	1.0
SEP									
26...	150	2.6	8.0	--	--	240	580	60	1.1

E ESTIMATED.

06758500 SOUTH PLATTE RIVER NEAR WELDONA, CO--Continued

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	ALGAL GROWTH POTEN-TIAL, BOTTLE TEST (MG/L)
OCT									
18...	23	1260	1.71	2120	6.3	.030	0	200	32
NOV									
22...	24	1660	2.26	825	5.7	.240	30	30	10
DEC									
19...	16	1220	1.66	2390	5.0	.530	10	30	73
JAN									
26...	15	1120	1.52	1010	4.9	.770	10	20	284
FEB									
13...	13	1050	1.43	--	7.3	.650	10	20	133
MAR									
28...	10	1280	1.74	397	2.3	.080	30	20	--
APR									
24...	12	1120	1.52	838	3.8	.070	10	10	90
MAY									
22...	10	581	.79	3040	2.5	.330	20	20	87
JUN									
13...	11	427	.58	8820	1.1	.190	30	20	--
JUL									
11...	13	950	1.29	628	3.0	.160	0	6	83
AUG									
14...	14	1120	1.52	2500	3.0	.320	30	8	52
SEP									
26...	13	1180	1.60	1600	4.1	.470	20	7	--

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	222	39	23	470	---	170	184	---	15
2	237	36	23	380	---	110	184	---	15
3	264	12	8.6	360	81	79	201	47	26
4	294	28	22	340	---	50	245	---	40
5	302	17	14	290	---	35	312	---	80
6	353	12	11	250	41	28	320	---	70
7	372	16	16	220	---	20	210	108	61
8	428	58	67	200	---	15	181	---	50
9	470	28	36	210	21	12	200	---	55
10	485	27	35	220	---	10	220	---	75
11	496	137	183	230	---	25	240	---	95
12	496	125	167	250	59	40	260	138	97
13	550	126	187	250	---	35	280	---	110
14	550	117	174	240	---	25	310	---	120
15	566	120	183	230	37	23	340	---	130
16	588	73	116	230	30	19	370	---	140
17	629	147	250	222	37	22	400	---	140
18	572	86	133	218	---	20	430	---	150
19	480	61	79	201	29	16	470	---	150
20	454	61	75	198	---	30	520	---	170
21	320	47	41	191	60	31	570	---	190
22	353	79	75	194	---	30	600	---	200
23	443	74	89	194	---	20	540	---	170
24	804	389	985	187	29	15	490	---	150
25	665	232	442	187	---	15	450	---	140
26	480	350	454	194	---	15	430	---	130
27	491	141	187	194	25	13	410	122	135
28	518	181	253	194	29	15	420	---	140
29	520	183	257	194	---	15	400	---	120
30	520	149	209	184	27	13	300	---	65
31	500	146	197	---	---	---	310	---	65
TOTAL	14422	---	4911.6	7122	---	966	10797	---	3294

06758500 SOUTH PLATTE RIVER NEAR WELDONA, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JANUARY			FEBRUARY			MARCH	
1	320	---	60	490	---	170	181	---	15
2	340	---	55	510	---	200	178	---	25
3	400	---	80	520	166	233	170	61	28
4	450	---	95	540	---	240	161	---	25
5	520	---	130	550	---	220	155	---	25
6	570	---	160	560	---	190	148	---	20
7	570	---	160	580	107	168	145	130	51
8	570	---	140	600	---	160	148	---	35
9	530	---	100	610	---	170	148	---	35
10	510	---	95	630	---	170	145	---	25
11	520	61	86	650	193	339	140	108	41
12	580	---	100	670	---	190	140	---	35
13	570	---	100	740	450	899	142	---	25
14	570	---	100	750	167	338	142	---	25
15	570	---	120	700	---	130	140	---	25
16	570	---	120	690	---	55	140	---	25
17	570	---	120	630	---	60	140	---	25
18	740	---	160	570	---	80	152	---	30
19	700	---	160	507	60	82	161	---	35
20	640	---	150	433	---	40	155	---	30
21	620	---	140	368	---	25	155	---	30
22	560	---	130	334	22	20	170	---	35
23	480	---	95	302	---	20	178	---	40
24	530	---	120	248	---	10	184	---	40
25	570	---	140	191	---	9.0	184	---	40
26	560	---	140	170	125	57	167	---	35
27	540	99	144	175	---	7.0	140	---	25
28	440	---	130	184	21	10	108	53	15
29	450	---	140	---	---	---	106	---	15
30	470	---	150	---	---	---	98	---	15
31	480	117	152	---	---	---	97	---	15
TOTAL	16510	---	3772	13902	---	4292.0	4618	---	885

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	97			135			4000		
2	98			126			4020		
3	93			184			3100		
4	91			1570			2640		
5	86			1650			2220		
6	84			1220			1910		
7	84			1030			1770		
8	80			839			2430		
9	75			1030			3850		
10	68			1970			6850		
11	79			2390			9950		
12	79			2270			9350		
13	142			2010			7970		
14	418			1910			7310		
15	307			1770			7050		
16	250			1720			7480		
17	215			1700			8150		
18	170			1760			8220		
19	150			1740			8480		
20	164			1710			8150		
21	191			1700			7310		
22	264			1940			5990		
23	269			1880			4800		
24	260			1720			3650		
25	208			1790			3490		
26	164			2020			3120		
27	148			2150			2480		
28	215			2200			1860		
29	194			2340			1260		
30	155			2410			1070		
31	---			2950			---		
TOTAL	4898			51834			149930		

06758500 SOUTH PLATTE RIVER NEAR WELDONA, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	895			368			528		
2	683			412			491		
3	572			392			443		
4	485			325			412		
5	397			285			407		
6	316			273			412		
7	245			269			418		
8	330			269			454		
9	528			307			491		
10	464			701			491		
11	372			955			485		
12	290			1780			518		
13	298			1390			512		
14	307			1080			470		
15	294			1120			623		
16	281			1590			770		
17	338			1710			770		
18	358			2200			732		
19	382			2600			725		
20	423			3400			707		
21	407			3850			683		
22	334			3270			707		
23	320			2290			732		
24	320			1800			725		
25	343			1510			677		
26	353			1290			653		
27	363			1100			623		
28	402			970			583		
29	377			860			556		
30	330			764			539		
31	334			629			---		
TOTAL	12141			39759			17337		
YEAR	343270		18120.6						

06759100 BIJOU CREEK NEAR FORT MORGAN, CO

LOCATION.--Lat 40°16'58", long 103°52'31", in NW¼SE¼ sec.28, T.4 N., R.58 W., Morgan County, Hydrologic Unit 10190011, on left bank 1,000 ft (305 m) downstream from bridge on State Highway 144, 0.8 mi (1.3 km) upstream from South Platte River, and 4.0 mi (6.4 km) northwest of Fort Morgan.

DRAINAGE AREA.--1,500 mi² (3,885 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1976 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,302 ft (1,311 m), from topographic map.

REMARKS.--Records good except those for period Nov. 9 to Feb. 5, which are poor. Natural flow of stream affected by delivery of stored water from Bijou No. 2 reservoir to South Platte River past the gage, and waste flows from Fort Morgan Canal, which crosses 1.5 mi (2.4 km) upstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,200 ft³/s (62.3 m³/s) July 26, 1977, gage height, 6.01 ft (1.832 m) from floodmark, from rating curve extended above 58 ft³/s (1.6 m³/s), on basis of slope-area measurement of peak flow; minimum daily, 4.8 ft³/s (0.14 m³/s) Oct. 2-4, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 133 ft³/s (3.77 m³/s) at 1230 Aug. 10, gage height, 2.82 ft (0.860 m); minimum daily, 5.3 ft³/s (0.15 m³/s) Feb. 17-23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.7	6.5	7.0	6.7	6.9	7.6	9.0	12	12	30	6.7	7.0
2	6.5	6.5	7.0	6.7	6.3	7.0	8.7	12	10	58	6.5	7.0
3	6.3	6.7	7.2	6.7	6.1	6.5	8.7	12	10	36	6.3	7.0
4	15	6.3	7.0	6.7	5.9	6.7	8.7	11	10	24	6.3	7.0
5	18	6.3	7.4	6.7	6.1	6.5	8.1	11	10	11	6.1	7.0
6	7.6	6.3	7.2	6.7	6.1	6.3	8.7	11	10	10	6.1	7.2
7	7.6	6.5	5.9	6.7	5.9	7.9	9.2	11	10	11	6.3	7.4
8	7.6	6.3	5.9	6.7	5.7	15	10	11	15	10	6.1	7.6
9	7.6	6.3	7.2	6.7	7.4	13	10	11	15	10	6.3	7.9
10	7.4	6.3	7.2	6.7	6.1	10	10	11	15	10	75	7.9
11	7.4	6.3	7.2	6.7	5.9	11	10	11	15	11	88	8.0
12	7.4	6.3	7.2	6.7	5.7	11	9.8	11	15	12	37	8.0
13	7.4	6.1	7.2	6.5	5.9	9.5	9.8	11	15	11	25	8.0
14	7.4	6.1	7.2	6.7	5.7	7.9	10	11	15	10	25	9.0
15	7.4	6.1	7.2	7.0	5.7	7.6	10	11	15	9.8	14	9.0
16	7.2	6.1	7.2	6.7	5.4	7.4	10	11	10	10	13	8.0
17	7.0	5.9	7.2	6.7	5.3	7.6	10	11	10	9.2	12	7.0
18	6.7	5.9	7.2	6.5	5.3	7.9	10	11	10	8.1	11	7.0
19	6.5	5.9	7.2	6.5	5.3	7.4	10	11	10	7.9	13	7.0
20	6.7	5.7	7.2	6.3	5.3	7.2	10	10	10	8.1	15	7.0
21	6.5	5.7	7.2	6.7	5.3	7.6	10	10	10	7.9	15	7.0
22	6.7	5.7	7.2	6.5	5.3	7.6	10	9.5	10	7.6	13	7.0
23	6.5	6.3	6.7	5.9	5.3	7.4	10	9.8	10	7.4	11	7.4
24	7.2	7.0	6.7	6.1	10	7.4	10	10	12	7.4	10	7.4
25	6.7	7.2	6.7	6.3	14	7.9	11	9.2	11	7.2	9.0	7.2
26	6.5	7.2	6.7	6.3	16	7.6	11	10	10	7.2	9.0	7.4
27	6.3	7.2	6.7	6.1	18	7.4	11	10	44	7.2	8.0	7.4
28	6.3	7.0	6.7	6.1	11	30	11	10	76	7.0	8.0	7.4
29	6.3	7.0	6.7	6.3	---	25	11	10	36	7.0	8.0	7.4
30	6.1	6.7	6.7	6.3	---	9.2	11	12	22	7.0	8.0	42
31	6.3	---	6.7	6.3	---	9.2	---	12	---	7.0	7.0	---
TOTAL	232.8	191.4	215.7	202.2	202.5	297.3	296.7	334.5	483	387.0	490.7	258.6
MEAN	7.51	6.38	6.96	6.52	7.23	9.59	9.89	10.8	16.1	12.5	15.8	8.62
MAX	18	7.2	7.4	7.0	18	30	11	12	76	58	88	42
MIN	6.1	5.7	5.9	5.9	5.3	6.3	8.1	9.2	10	7.0	6.1	7.0
AC-FT	462	380	428	401	402	590	589	663	958	768	973	513

CAL YR 1978 TOTAL 3976.9 MEAN 10.9 MAX 66 MIN 5.3 AC-FT 7890
WTR YR 1979 TOTAL 3592.4 MEAN 9.84 MAX 88 MIN 5.3 AC-FT 7130

06759100 BIJOU CREEK NEAR FORT MORGAN, CO--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1976 to current year (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT									
18...	0830	7.0	1700	7.7	11.5	5.7	600	340	130
NOV									
22...	1132	6.1	1670	7.8	9.0	7.8	630	380	190
DEC									
19...	0800	6.3	1700	7.7	6.5	6.7	630	370	190
JAN									
26...	0823	4.8	1700	7.7	6.0	7.4	660	410	200
FEB									
13...	0850	6.7	1750	7.7	8.5	6.7	660	410	200
MAR									
28...	1103	23	1700	7.7	14.0	6.2	700	460	210
APR									
24...	1139	6.3	1560	7.6	15.0	6.6	640	380	190
MAY									
22...	1400	5.3	1500	7.6	17.0	6.5	690	440	210
JUN									
13...	1132	13	1700	7.7	19.0	--	690	440	210
JUL									
03...	1254	30	1560	7.6	19.0	7.2	570	340	170
AUG									
13...	1455	19	1520	8.0	19.0	7.3	600	360	170
SEP									
26...	1020	6.1	1800	7.5	15.0	8.6	690	430	210

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
OCT									
18...	66	130	2.3	6.9	310	0	250	560	65
NOV									
22...	38	140	2.4	9.0	300	0	250	580	59
DEC									
19...	37	150	2.6	10	310	0	250	600	54
JAN									
26...	39	140	2.4	10	--	--	250	610	54
FEB									
13...	39	130	2.2	9.4	--	--	250	600	60
MAR									
28...	43	140	2.3	9.3	--	--	240	620	60
APR									
24...	39	160	2.8	9.0	--	--	260	600	55
MAY									
22...	39	150	2.5	9.3	--	--	250	580	51
JUN									
13...	40	140	2.3	9.6	--	--	250	590	53
JUL									
03...	36	120	2.2	8.2	--	--	230	530	50
AUG									
13...	42	140	2.5	8.6	--	--	240	580	55
SEP									
26...	39	140	2.3	9.5	--	--	260	630	53

06759100 BIJOU CREEK NEAR FORT MORGAN, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	PHOSPHORUS, DISSOLVED (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
OCT									
18...	1.3	11	1150	1.56	21.7	5.4	.660	20	50
NOV									
22...	1.0	23	1220	1.66	20.1	6.4	.020	10	230
DEC									
19...	1.0	22	1250	1.70	21.3	7.4	.030	0	360
JAN									
26...	.8	20	1250	1.70	16.3	6.6	.030	<0	340
FEB									
13...	.9	22	1250	1.70	22.6	8.7	.030	<0	350
MAR									
28...	1.0	18	1280	1.74	79.8	7.6	.550	30	270
APR									
24...	1.0	22	1270	1.73	21.6	7.9	.020	10	370
MAY									
22...	.8	20	1250	1.70	17.9	7.9	.020	10	300
JUN									
13...	1.0	20	1250	1.70	43.9	7.8	.020	10	400
JUL									
03...	.9	20	1110	1.51	89.9	7.5	.070	0	230
AUG									
13...	1.0	20	1180	1.60	60.5	4.9	.110	10	50
SEP									
26...	1.1	22	1290	1.75	21.2	6.2	.010	10	170

06760000 SOUTH PLATTE RIVER AT BALZAC, CO

LOCATION.--Lat 40°24'24", long 103°27'58", in NE¼NE¼ sec.13, T.5 N., R.55 W., Morgan County, Hydrologic Unit 10190012, on right bank just upstream from highway bridge at Balzac siding, 2.8 mi (4.5 km) northeast of Union, and 7.0 mi (11.3 km) downstream from Beaver Creek.

DRAINAGE AREA.--16,852 mi² (43,647 km²).

PERIOD OF RECORD.--October 1916 to current year. Prior to October 1933, monthly discharge only, published in WSP 1310.

REVISED RECORDS.--WSP 1310: 1937 (M). WSP 1730: 1957, drainage area. WSP 1918: 1928 (monthly runoff).

GAGE.--Water-stage recorder. Datum of gage is 4,091.06 ft (1,246.955 m) National Geodetic Vertical Datum of 1929. Since Oct. 1, 1936, supplementary water-stage recorder on secondary channel 600 ft (180 m) to the left; at datum 1.69 ft (0.515 m) lower prior to July 24, 1973, and at datum 0.09 ft (0.027 m) lower thereafter. See WSP 1710 or 1730 for history of changes prior to Aug. 21, 1947.

REMARKS.--Records good except those for winter period, which are poor. Natural flow of stream affected by transmountain and transbasin diversions, storage reservoirs, power developments, ground-water withdrawals and diversions above station for irrigation of about 1,065,000 acres (4,310 km²), and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--63 years (water years 1917-79), 404 ft³/s (11.44 m³/s), 292,700 acre-ft/yr (361 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 123,000 ft³/s (3,480 m³/s) June 18, 1965, gage height, 13.32 ft (4.060 m), from rating curve extended above 6,400 ft³/s (180 m³/s), on basis of contracted-opening measurement of peak flow; minimum daily, 1.3 ft³/s (0.037 m³/s) Jan. 25, 1947.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,820 ft³/s (278 m³/s) at 1600 June 12, gage height, 9.53 ft (2.905 m); minimum daily, 21 ft³/s (0.59 m³/s) Nov. 13-16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	94	25	25	30	185	72	28	215	3030	1000	368	641
2	82	25	26	31	175	57	27	262	3810	793	340	544
3	102	25	28	30	165	55	26	290	3390	684	387	501
4	135	24	39	33	185	55	26	260	2750	616	360	431
5	171	24	102	39	200	50	26	1200	2330	509	304	384
6	189	24	71	60	225	30	24	876	1950	438	258	343
7	226	23	49	80	270	40	23	487	1740	361	217	331
8	252	23	41	100	280	25	23	457	1960	284	200	341
9	318	23	42	120	295	25	23	487	2780	287	175	377
10	332	22	36	145	210	30	24	794	4560	411	532	405
11	112	22	46	170	270	30	42	1650	7550	392	790	400
12	89	22	131	190	405	30	72	1840	9340	317	1100	401
13	85	21	141	220	610	30	87	1730	7900	258	1370	431
14	99	21	187	205	685	26	160	1560	6540	278	1090	442
15	90	21	79	170	718	30	447	1420	5790	297	966	448
16	72	21	54	145	767	30	354	1240	5830	260	1080	572
17	80	22	67	165	814	145	266	1180	6850	263	1400	475
18	88	22	43	205	806	95	253	1120	7260	247	1430	284
19	76	23	44	285	752	85	207	1130	7450	243	2110	259
20	62	23	52	295	643	85	186	1140	7450	248	2600	250
21	60	23	61	325	541	80	182	1220	6850	266	3030	239
22	60	23	52	390	416	70	196	1230	5830	280	3160	196
23	58	24	53	320	290	78	278	1370	5150	278	2390	196
24	57	28	46	215	230	85	286	1230	4210	295	1850	224
25	129	28	40	225	135	85	280	1100	3760	299	1590	211
26	45	27	38	320	85	80	238	1170	3380	316	1410	186
27	35	26	34	305	60	60	203	1330	2840	317	1240	172
28	30	25	33	235	65	70	207	1380	2140	312	1100	163
29	29	24	32	190	---	40	260	1540	1610	392	1050	154
30	28	23	31	151	---	34	242	1740	1200	374	895	148
31	27	---	30	165	---	30	---	2060	---	448	778	---
TOTAL	3312	707	1753	5559	10482	1737	4696	34708	137230	11763	35570	10149
MEAN	107	23.6	56.5	179	374	56.0	157	1120	4574	379	1147	338
MAX	332	28	187	390	814	145	447	2060	9340	1000	3160	641
MIN	27	21	25	30	60	25	23	215	1200	243	175	148
AC-FT	6570	1400	3480	11030	20790	3450	9310	68840	272200	23330	70550	20130

CAL YR 1978 TOTAL 49571 MEAN 136 MAX 1580 MIN 14 AC-FT 98320
WTR YR 1979 TOTAL 257666 MEAN 706 MAX 9340 MIN 21 AC-FT 511100

06764000 SOUTH PLATTE RIVER AT JULESBURG, CO

LOCATION.--Lat 40°58'46", long 102°15'15", in NW¼NE¼ and SE¼NE¼ (two channels) sec.33, T.12 N., R.44 W., Sedgwick County, Hydrologic Unit 10190018, on left bank of channel 4 (left channel) 215 ft (66 m) downstream from bridge, and on right bank of channel 2, 800 ft (244 m) downstream from bridge on U.S. Highway 385, 0.9 mi (1.4 km) southeast of Julesburg, 3.0 mi (4.8 km) upstream from Colorado-Nebraska State line, and 8 mi (13 km) downstream from Lodgepole Creek.

DRAINAGE AREA.--23,138 mi^2 (59,927 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1902 to current year. Monthly discharge only for some periods, published in WSP 1310. Published as "near Julesburg" 1903-8, 1915-16, and as "at Ovid" 1922-24.

REVISED RECORDS.--WSP 1310: 1902, 1906-7, 1948(P). WSP 1440: 1903-4. WSP 1730: Drainage area.

GAGE.--Two water-stage recorders. Datum of gages is 3,446.76 ft (1,050.572 m) National Geodetic Vertical Datum of 1929. See WSP 1710 or 1730 for history of changes prior to Oct. 1, 1956. Since Oct. 1, 1956, water-stage recorders on channels nos. 2 and 4. Channel no. 2: Oct. 1, 1956, to Sept. 22, 1965, at site 300 ft (91 m) downstream at present datum. Channel no. 4: Oct. 1, 1956, to Dec. 10, 1958, at site 135 ft (41 m) downstream at present datum. Since May 11, 1973, supplementary water-stage recorder on channel no. 2 at bridge 800 ft (244 m) upstream at same datum.

REMARKS.--Records good except those for winter period, which are fair. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation of 1,200,000 acres (4,940 km^2) above station, and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--77 years, 475 ft^3/s (13.45 m^3/s), 344,100 acre-ft/yr (424 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,600 ft^3/s (1,060 m^3/s) June 20, 1965, gage height, 10.44 ft (3.182 m), from floodmarks in gage well; no flow Aug. 18-20, 1902, July 25 to Aug. 7, 1903.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,970 ft^3/s (226 m^3/s) at 0600 June 15, gage height, 7.70 ft (observed) (2.347 m); minimum daily, 23 ft^3/s (0.65 m^3/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	76	92	70	195	414	318	179	1530	1720	362	800
2	26	75	79	75	180	375	305	172	1820	1380	296	701
3	28	72	56	75	200	352	299	166	2370	1090	219	613
4	29	72	68	75	205	335	294	154	2960	888	164	542
5	34	72	87	70	195	324	293	136	3030	724	115	454
6	45	72	101	70	200	314	291	123	2520	632	72	372
7	49	72	96	65	220	308	290	134	2280	570	57	329
8	47	74	87	70	235	289	288	252	2200	488	44	263
9	47	75	89	70	270	241	287	317	2240	380	40	229
10	63	76	92	90	300	206	287	291	2570	302	39	212
11	80	74	96	95	315	190	317	315	3070	230	38	214
12	115	78	96	100	280	178	331	384	3820	185	36	240
13	125	80	96	90	270	172	332	572	4820	147	34	306
14	136	79	95	90	370	165	308	1200	6610	117	36	311
15	136	79	114	115	540	160	305	1380	7650	99	166	296
16	113	78	115	130	720	158	306	1300	6690	86	263	307
17	89	78	116	135	820	153	314	1210	6250	80	281	308
18	83	78	119	135	910	165	373	1050	6000	79	320	362
19	102	78	121	135	1000	175	401	919	6340	79	470	385
20	121	89	126	155	1100	171	383	864	6640	67	715	322
21	128	83	128	205	1080	168	355	910	6780	63	1260	278
22	130	88	120	240	1040	180	336	1150	6970	58	1790	261
23	136	104	116	270	990	177	306	1050	6950	54	2160	255
24	139	115	119	325	850	174	241	986	6120	52	2420	238
25	129	107	124	330	705	196	236	1030	5770	50	2130	203
26	129	104	125	250	630	262	227	1000	4990	48	1820	195
27	109	95	116	210	551	286	238	929	3950	48	1570	204
28	85	93	114	270	490	292	226	886	3370	52	1400	200
29	84	93	107	300	---	293	205	968	2900	63	1220	181
30	80	93	95	270	---	299	188	1040	2290	51	1020	170
31	76	---	80	225	---	318	---	1230	---	52	920	---
TOTAL	2716	2502	3185	4805	14861	7490	8880	22297	131500	9934	21477	9751
MEAN	87.6	83.4	103	155	531	242	296	719	4383	320	693	325
MAX	139	115	128	330	1100	414	401	1380	7650	1720	2420	800
MIN	23	72	56	65	180	153	188	123	1530	48	34	170
AC-FT	5390	4960	6320	9530	29480	14860	17610	44230	260800	19700	42600	19340

CAL YR 1978 TOTAL 36184 MEAN 99.1 MAX 574 MIN 11 AC-FT 71770
WTR YR 1979 TOTAL 239398 MEAN 656 MAX 7650 MIN 23 AC-FT 474800

06764000 SOUTH PLATTE RIVER AT JULESBURG, CO--Continued
(Irrigation network station)
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1945 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1945 to current year.
WATER TEMPERATURES: Water years 1945-49, October 1950 to current year.

INSTRUMENTATION.--Water-quality monitor since July 1973.

REMARKS.--Specific-conductance and temperature data recorded on channel no. 2 (station 06763990). Daily maximum and minimum specific-conductance data are available in the district office.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 3,270 micromhos Jan. 12, 1971; minimum daily, 348 micromhos Aug. 15, 1968.
WATER TEMPERATURES: Maximum, 36.0°C July 17, 19, 1977, July 16, 1978; minimum, freezing point on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 2,570 micromhos Jan. 2; minimum, 950 micromhos June 14.
WATER TEMPERATURES: Maximum, 30.5°C July 10 and Aug. 8; minimum, freezing point on many days during winter months.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	TEMPERATURE (DEG C)
OCT		
04...	1415	17.0
30...	1345	12.0
NOV		
15...	1400	7.5
DEC		
01...	1415	8.0
01...	1435	8.0
14...	1228	2.0
18...	1355	1.0
18...	1410	2.0
JAN		
15...	1500	2.0
30...	1218	.0
FEB		
15...	1730	1.0
27...	1225	3.5
MAR		
01...	1010	5.0
01...	1135	4.0
27...	1316	10.5
APR		
23...	1318	19.0
MAY		
21...	1330	17.5
JUN		
14...	0803	22.0
JUL		
03...	0832	22.5
17...	0950	18.0
AUG		
07...	1245	26.0
14...	1100	16.0
14...	1145	17.0
15...	1320	15.0
30...	1310	31.0
SEP		
25...	1020	19.0
27...	1330	22.0

DATE	TIME	OXYGEN, DISSOLVED (MG/L)
OCT		
30...	1345	10.6
NOV		
15...	1400	12.5
DEC		
14...	1228	10.9
FEB		
27...	1225	10.7
MAR		
27...	1316	10.6
APR		
23...	1318	10.0
MAY		
21...	1330	11.2
JUL		
03...	0832	7.9
AUG		
07...	1245	6.9
07...	1400	6.7
07...	1500	6.3
07...	1600	6.3
07...	1700	6.4
07...	1800	3.5
07...	1900	3.4
07...	2000	2.8
07...	2100	2.6
07...	2200	2.4
07...	2300	2.7
07...	2400	2.6
08...	0100	2.4
08...	0200	3.5
08...	0300	5.6
08...	0400	5.9
08...	0500	5.6
08...	0600	6.0
08...	0700	6.1
08...	0800	6.8
08...	0900	7.0
08...	1000	6.9
08...	1100	6.7
08...	1200	6.4
08...	1253	5.8
SEP		
25...	1020	8.6

06764000 SOUTH PLATTE AT JULESBURG, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	NITRO-GEN, DIS-SOLVED (MG/L AS N)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)
OCT											
30...	1345	66	2300	8.4	12.0	6.1	10.6	--	K56	47	850
NOV											
15...	1400	64	2170	8.5	7.5	7.0	12.5	--	K24	44	840
DEC											
14...	1220	74	2270	8.2	2.0	17	10.9	--	K15	3000	870
JAN											
30...	1210	126	2300	8.1	.0	1.7	--	--	--	--	860
FEB											
27...	1225	527	2100	8.1	3.5	16	10.7	--	--	--	780
MAR											
27...	1316	252	2130	8.3	10.5	8.8	10.6	--	K4	840	800
APR											
23...	1318	234	2210	8.3	19.0	1.0	10.0	--	<1	K13	850
MAY											
21...	1330	742	1430	8.6	17.5	--	11.2	--	K76	K85	--
JUN											
14...	0803	4380	950	7.8	22.0	140	--	--	--	1020	340
JUL											
03...	0832	1080	1500	8.3	22.5	44	7.9	--	840	130	510
AUG											
07...	1245	56	1960	8.5	26.0	10	6.9	--	35	K34	740
SEP											
25...	1020	175	2050	8.4	19.0	14	8.6	2.2	K90	29	740

K BASED ON NON-IDEAL COLONY COUNT.

06764000 SOUTH PLATTE AT JULESBURG, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
OCT 30...	630	240	60	220	3.3	21	220	970	100	.6	24
NOV 15...	620	230	64	190	2.9	20	220	850	95	.6	25
DEC 14...	620	240	66	210	3.1	18	250	960	100	.6	28
JAN 30...	590	230	70	220	3.3	17	270	870	97	.8	25
FEB 27...	530	200	69	200	3.1	14	250	830	87	.8	21
MAR 27...	570	210	67	210	3.2	16	230	850	90	.8	20
APR 23...	610	210	80	220	3.3	14	240	890	96	.8	19
MAY 21...	--	--	--	--	--	--	--	--	--	--	--
JUN 14...	200	88	28	74	1.8	14	140	290	36	.7	16
JUL 03...	300	130	45	130	2.5	10	210	520	62	.8	19
AUG 07...	490	200	59	180	2.9	20	250	740	80	.7	27
SEP 25...	500	160	82	200	3.2	17	240	790	78	.8	22

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)
OCT 30...	1760	1770	2.39	314	2.1	--	.29	1.1	1.4	1.0	3.5
NOV 15...	1700	1610	2.31	295	2.0	--	.01	.91	.92	.95	2.9
DEC 14...	1880	1770	2.45	360	2.6	--	.55	.95	1.5	1.1	4.1
JAN 30...	1830	1690	2.49	3590	3.1	--	.51	.47	.98	.82	4.1
FEB 27...	1650	1570	2.24	2350	2.8	--	.09	.56	.65	.64	3.5
MAR 27...	1700	1600	2.31	1160	1.7	--	.04	.45	.49	.43	2.2
APR 23...	1730	1670	2.35	1090	1.5	--	.05	.59	.64	.46	2.1
MAY 21...	--	--	--	--	--	--	--	--	--	--	--
JUN 14...	642	631	.87	7590	.86	--	.28	2.0	2.3	1.5	3.2
JUL 03...	1120	1040	1.52	3270	1.4	--	.06	1.2	1.3	.01	2.7
AUG 07...	1540	1460	2.09	235	1.4	--	.27	.73	1.0	.89	2.4
SEP 25...	1570	1500	2.14	742	1.4	1.3	.01	.87	.88	.88	2.3

06764000 SOUTH PLATTE AT JULESBURG, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	PHYTO-PLANK-TON, TOTAL (CELLS PER ML)	PERI-PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	PERI-PHYTON BIOMASS ASH WEIGHT G/SQ M	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)	CHLOR-B PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)	BIOMASS CHLORO-PHYLL RATIO PERI-PHYTON (UNITS)
OCT										
30...	.070	.040	--	5.7	--	--	--	--	--	--
NOV										
15...	.040	.090	5.1	--	5800	--	--	--	--	--
DEC										
14...	.200	.110	5.4	--	--	--	--	--	--	--
JAN										
30...	.200	.200	5.0	--	--	--	--	--	--	--
FEB										
27...	.200	.190	--	5.7	--	--	--	--	--	--
MAR										
27...	.090	.090	6.2	--	3300	--	--	--	--	--
APR										
23...	.090	.080	8.6	--	--	7.13	5.53	10.0	.183	160
MAY										
21...	--	--	--	--	21000	--	--	--	--	--
JUN										
14...	.430	.170	20	--	2100	--	--	--	--	--
JUL										
03...	.350	.190	14	--	9900	--	--	--	--	--
AUG										
07...	.130	.080	--	7.0	30000	--	--	--	--	--
SEP										
25...	.000	.060	6.4	--	40000	--	--	--	--	--

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)
OCT									
30...	1345	3	3	0	0	3	2	20	20
FEB									
27...	1225	3	2	0	0	2	1	10	10
AUG									
07...	1245	4	4	100	80	0	<1	10	0

DATE	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)
OCT									
30...	0	0	4	1	480	30	23	10	90
FEB									
27...	0	0	5	1	560	26	18	5	80
AUG									
07...	0	<3	2	1	340	9	4	0	200

DATE	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
OCT									
30...	50	.0	.0	4	5	0	0	10	6
FEB									
27...	20	.0	.1	4	4	0	0	20	20
AUG									
07...	150	.2	.3	3	3	0	0	20	<3

06764000 SOUTH PLATTE AT JULESBURG, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RADIUM 226, DIS-SOLVED, RADON METHOD (PCI/L)	URANIUM DIS-SOLVED, EXTRAC-TION (UG/L)
NOV 15...	1400	100	1.0	25	3.8	22	3.7	.10	55
MAY 21...	1330	32	1.0	9.2	3.0	8.4	3.0	.11	45

DATE	TIME	PCB, TOTAL (UG/L)	PCB, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ALDRIN, TOTAL (UG/L)	ALDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	AROCLOR TOTAL 1254 PCB SERIES (UG/L)	CHLOR-DANE, TOTAL (UG/L)	CHLOR-DANE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DDD, TOTAL (UG/L)	DDD, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DDE, TOTAL (UG/L)
NOV 15...	1400	ND	--	ND	--	--	ND	--	ND	--	ND
FEB 27...	1225	ND	--	ND	--	--	ND	--	ND	--	ND
MAY 22...	0915	ND	ND	ND	ND	--	ND	ND	ND	ND	ND
AUG 07...	1300	--	--	ND	--	.0	ND	--	ND	--	ND

DATE	DDE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DDT, TOTAL (UG/L)	DDT, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DI-AZINON, TOTAL (UG/L)	DI-AZINON, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DI-ELDRIN TOTAL (UG/L)	DI-ELDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ETHION, TOTAL (UG/L)	ETHION, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)
NOV 15...	--	ND	--	ND	--	ND	--	ND	--	ND	--
FEB 27...	--	ND	--	ND	--	ND	--	ND	--	ND	--
MAY 22...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 07...	--	ND	--	ND	--	ND	--	ND	--	ND	--

06764000 SOUTH PLATTE AT JULESBURG, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL (UG/L)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALA-THION, TOTAL (UG/L)	MALA-THION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METH-OXY-CHLOR, TOTAL (UG/L)	METH-OXY-CHLOR, TOT. IN BOTTOM MATL. (UG/KG)
NOV 15...	ND	--	ND	--	ND	--	ND	--	ND	--
FEB 27...	ND	--	ND	--	ND	--	ND	--	ND	--
MAY 22...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 07...	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	METHYL PARA-THION, TOTAL (UG/L)	METHYL PARA-THION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRI-THION, TOTAL (UG/L)	METHYL TRI-THION, TOT. IN BOTTOM MATL. (UG/KG)	PARA-THION, TOTAL (UG/L)	PARA-THION, TOTAL IN BOTTOM MATERIAL (UG/KG)	TOX-APHENE, TOTAL (UG/L)	TOXA-PHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TOTAL TRI-THION (UG/L)	TRI-THION, TOTAL IN BOTTOM MATERIAL (UG/KG)
NOV 15...	ND	--	ND	--	ND	--	ND	--	ND	--
FEB 27...	ND	--	ND	--	ND	--	ND	--	ND	--
MAY 22...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 07...	ND	--	ND	--	ND	--	ND	--	ND	--

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2200	2230	---	2490	2340	2140	2190	2240	1280	1340	1890	---
2	2210	2220	---	2520	2330	2150	2220	2230	1220	1450	1890	---
3	2210	2200	---	2400	2340	2130	2240	2230	1110	1530	1920	---
4	2200	2190	---	2390	2300	2130	2250	2250	1140	1600	1780	---
5	2270	2190	---	2390	2290	2160	2250	2260	1210	1630	1790	---
6	2260	2200	---	2380	2230	2170	2240	2260	1280	1660	1870	---
7	2240	2190	---	2380	2200	2170	2260	2220	1300	1670	1920	---
8	2220	2200	---	2410	2180	2160	2250	1820	1330	1670	2010	---
9	2200	2190	---	2390	2160	2150	2250	1860	1380	1700	2070	---
10	2200	2180	---	2350	2110	2150	2220	1900	1420	1690	2120	---
11	2190	2190	---	2340	2050	2150	2130	2050	1340	1710	2120	---
12	2180	2210	---	2410	1970	2160	2180	2060	1210	1720	2100	---
13	2160	2230	---	2520	1890	2140	2250	1830	1150	1660	2100	---
14	2150	2240	---	2520	1850	2140	2260	1580	1080	1640	2090	---
15	2150	---	---	---	1640	2150	2250	1580	982	1610	1990	---
16	2150	---	---	---	1740	2160	2230	1610	1020	1640	1990	---
17	2160	---	---	2260	1780	2150	2180	1620	1010	1570	2040	---
18	2150	---	---	2200	1890	2040	2180	1630	989	1470	2080	---
19	2150	---	---	2130	1780	2080	2110	1650	963	1390	2070	---
20	2140	---	---	2140	1790	2140	2120	1590	916	1340	2070	---
21	2120	---	---	2140	1740	2160	2140	1590	898	1370	2080	---
22	2070	---	---	2100	1830	2180	2150	1460	878	1520	2140	---
23	2100	---	---	2240	1810	2150	2250	1550	874	1890	2190	---
24	2120	---	---	2170	1820	2190	2240	1550	922	1890	2200	---
25	2110	---	---	2160	1960	2180	2200	1490	970	1840	2200	1990
26	2100	---	---	2150	2010	2120	2200	1500	1060	1810	2190	2000
27	2120	---	---	2160	2060	2120	2190	1540	1120	1930	2200	1990
28	2120	---	---	2230	2120	2200	2190	1520	1100	1930	---	1990
29	2130	---	2260	2250	---	2210	2230	1430	1130	1880	---	2010
30	2180	---	2350	2300	---	2170	2240	1390	1260	1900	---	2020
31	2250	---	2390	2340	---	2190	---	1330	---	1870	---	---

06764000 SOUTH PLATTE AT JULESBURG, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	21.0	10.0	15.5	7.0	---	---	.0	.0	.0	.0	7.5	3.0
2	20.0	11.5	16.0	8.5	---	---	.0	.0	.0	.0	5.5	2.0
3	18.0	7.0	15.5	8.0	---	---	.0	.0	.0	.0	2.5	.0
4	10.5	7.0	16.0	7.5	---	---	.0	.0	.0	.0	5.5	.0
5	16.0	6.0	11.0	8.0	---	---	.0	.0	.0	.0	8.0	1.5
6	16.5	5.0	10.0	5.5	---	---	.0	.0	.0	.0	8.0	5.0
7	17.0	6.5	12.0	5.5	---	---	.0	.0	.0	.0	11.5	5.5
8	19.0	7.5	12.5	7.0	---	---	.0	.0	.0	.0	8.5	6.0
9	19.0	9.5	12.5	7.5	---	---	.0	.0	.0	.0	8.5	4.5
10	18.0	8.0	8.5	3.5	---	---	.0	.0	.0	.0	9.0	2.0
11	19.0	10.5	4.5	3.0	---	---	.0	.0	.0	.0	12.5	3.5
12	15.0	10.0	5.0	2.5	---	---	.0	.0	.0	.0	14.0	5.5
13	14.5	7.5	4.0	3.0	---	---	.0	.0	.0	.0	10.5	5.5
14	13.5	6.5	---	3.5	---	---	.0	.0	1.5	.0	12.0	3.0
15	15.0	7.0	---	---	---	---	---	.0	.0	.0	11.5	5.0
16	15.0	7.5	---	---	---	---	---	.0	.0	.0	12.0	6.5
17	14.0	7.5	---	---	---	---	---	.0	.0	.0	13.5	6.5
18	15.0	8.5	---	---	---	---	---	.0	.0	.0	10.0	3.5
19	16.0	7.5	---	---	---	---	---	.0	.5	.0	12.0	3.0
20	15.5	8.5	---	---	---	---	---	.5	1.5	.5	8.0	5.5
21	16.0	12.0	---	---	---	---	---	.0	.5	.0	7.0	6.0
22	13.0	7.0	---	---	---	---	---	.5	2.5	.5	6.5	4.0
23	12.5	6.0	---	---	---	---	---	.0	1.5	.0	11.5	3.0
24	14.0	6.5	---	---	---	---	---	.0	2.0	.0	14.5	6.5
25	11.0	7.0	---	---	---	---	---	.0	3.0	.0	15.5	7.5
26	11.5	5.0	---	---	---	---	---	---	5.5	1.0	10.0	6.5
27	14.0	6.0	---	---	---	---	---	---	4.0	2.5	13.0	6.0
28	15.0	6.5	---	---	---	---	---	---	7.0	2.0	16.5	8.5
29	15.5	7.0	---	---	.0	.0	---	---	---	---	12.5	9.0
30	13.0	8.0	--	---	.0	.0	.0	.0	---	---	15.0	8.0
31	14.0	7.0	---	---	.0	.0	.0	.0	---	---	10.0	6.0

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	8.5	5.5	19.0	10.0	20.5	15.0	---	---	20.0	20.0	---	---
2	10.5	5.5	14.5	9.0	21.5	17.0	29.0	25.0	20.0	20.0	---	---
3	10.5	6.5	17.0	8.0	22.5	18.0	28.0	22.5	20.5	20.0	---	---
4	11.5	5.5	20.5	8.5	23.0	19.5	27.0	21.5	24.5	18.0	---	---
5	13.5	7.0	21.5	11.0	23.0	20.0	26.0	21.0	23.0	18.5	---	---
6	14.0	6.5	24.5	12.5	23.5	20.5	22.0	19.5	23.0	19.0	---	---
7	16.5	8.0	21.0	11.0	21.5	17.5	28.5	19.0	23.0	19.5	---	---
8	17.5	9.5	13.0	8.0	17.0	14.5	29.0	20.0	30.5	17.5	---	---
9	18.0	9.0	8.5	5.5	14.0	12.5	29.0	19.5	25.5	18.5	---	---
10	13.0	8.0	9.5	4.5	18.5	12.0	30.5	20.5	22.0	18.0	---	---
11	7.5	5.5	17.5	6.5	21.0	16.0	30.0	20.0	26.0	18.0	---	---
12	11.0	4.0	18.5	12.0	23.0	19.0	28.0	20.0	27.5	17.5	---	---
13	13.0	6.5	21.0	13.5	24.5	20.5	25.5	19.5	23.0	17.5	---	---
14	17.0	8.0	21.5	16.5	23.0	21.5	23.5	19.0	17.5	17.5	---	---
15	20.0	10.5	22.0	17.5	---	---	22.5	18.5	17.5	16.0	---	---
16	21.0	13.0	23.0	17.5	---	---	21.0	18.5	21.5	16.0	---	---
17	19.0	15.0	21.5	19.5	---	---	19.5	17.5	23.5	17.5	---	---
18	21.5	14.5	22.5	18.5	---	---	20.5	16.5	21.5	18.5	---	---
19	21.0	15.5	19.5	17.5	---	---	21.5	15.0	21.0	18.0	---	---
20	20.0	13.5	---	---	---	---	21.5	17.0	22.0	17.5	---	---
21	20.5	12.0	20.5	18.0	---	---	21.5	17.5	22.0	18.0	---	---
22	21.0	13.0	19.5	16.0	---	---	21.0	19.0	22.0	18.0	---	---
23	20.5	13.0	20.0	16.5	---	---	21.0	20.5	22.5	19.0	---	---
24	19.5	14.0	22.5	18.0	---	---	22.0	20.5	21.5	19.0	---	---
25	18.0	12.5	23.5	17.5	---	---	22.0	18.5	21.0	19.0	21.0	17.5
26	16.5	10.5	24.5	19.5	---	---	21.5	19.0	22.0	19.0	21.5	17.5
27	17.5	10.0	26.0	20.0	---	---	22.0	20.5	22.0	19.0	20.5	17.5
28	17.0	9.0	26.5	20.0	---	---	23.5	21.0	---	---	21.0	16.5
29	18.5	8.5	24.0	19.5	---	---	21.5	19.5	---	---	20.5	---
30	19.0	9.5	19.0	15.5	---	---	21.5	21.0	---	---	---	---
31	---	---	19.0	14.0	---	---	21.0	19.5	---	---	---	---

06764000 SOUTH PLATTE AT JULESBURG, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT					
30...	1345	66	97	17	--
NOV					
15...	1400	64	69	12	40
DEC					
14...	1228	74	1830	366	--
JAN					
30...	1218	726	11	22	--
FEB					
27...	1225	527	338	481	9
MAR					
27...	1316	252	444	302	12
APR					
23...	1328	306	95	78	46

06764000 SOUTH PLATTE AT JULESBURG, CO--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1978 TO SEPTEMBER 1979

DATE	NOV 15,78		MAR 21,79		MAY 21,79		JUN 14,79	
TIME	1400		1316		1330		0803	
TOTAL CELLS/ML	5800		3300		21000		2100	
DIVERSITY: DIVISION	1.3		0.3		1.1		0.9	
.CLASS	1.3		0.3		1.1		0.9	
..ORDER	1.8		0.5		1.7		1.1	
...FAMILY	3.1		2.4		2.2		1.4	
....GENUS	3.3		2.7		2.7		1.4	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
.CHLOROPHYCEAE								
..CHLOROCOCCALES								
...HYDRODICTYACEAE								
....PEDIASTRUM	120	2	--	-	--	-	--	-
...MICRACTINIACEAE								
....GOLENKINIA	--	-	--	-	300	1	--	-
....MICRACTINIUM	--	-	--	-	600	3	--	-
...OOCYSTACEAE								
....ANKISTRODESMUS	41	1	--	-	1400	6	77	4
....CHODATELLA	41	1	--	-	--	-	--	-
....SELENASTRUM	--	-	--	-	450	2	--	-
....TREUBARIA	--	-	--	-	--	-	--	-
...SCENEDESMACEAE								
....ACTINASTRUM	--	-	--	-	--	-	--	-
....SCENEDESMUS	1100#	20	120	4	2400	11	1500#	74
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	82	1	--	-	1500	7	--	-
CHRYSOPHYTA								
.BACILLARIOPHYCEAE								
..CENTRALES								
...COSCINODISCACEAE								
....CYCLOTELLA	610	11	90	3	9300#	44	150	7
....MELOSIRA	--	-	--	-	--	-	--	-
....STEPHANODISCUS	--	-	--	-	2700	13	--	-
..PENNALES								
...ACHNANTHACEAE								
....ACHNANTHES	160	3	60	2	--	-	--	-
....RHOICOSPHENIA	160	3	--	-	--	-	--	-
...CYMBELLACEAE								
....CYMBELLA	120	2	--	-	--	-	--	-
...DIATOMACEAE								
....DIATOMA	160	3	30	1	--	-	--	-
...FRAGILARIACEAE								
....SYNEDRA	290	5	90	3	--	-	--	-
...GOMPHONEMATACEAE								
....GOMPHONEMA	82	1	840#	26	--	-	--	-
...NAVICULACEAE								
....ENTOMONEIS	120	2	30	1	--	-	--	-
....GYROSIGMA	--	-	30	1	--	-	--	-
....NAVICULA	1100#	18	1200#	36	300	1	77	4
....NEIDIUM	--	-	30	1	--	-	--	-
....PINNULARIA	--	-	30	1	--	-	--	-
...NITZSCHIACEAE								
....DENTICULA	--	-	60	2	--	-	--	-
....NITZSCHIA	740	13	210	6	1500	7	150	7
...SURIRELLACEAE								
....SURIRELLA	--	-	420	13	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)								
.CRYPTOPHYCEAE								
..CRYPTOMONADALES								
...CRYPTOMONADACEAE								
....CRYPTOMONAS	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
.CYANOPHYCEAE								
..CHROOCOCCALES								
...CHROOCOCCACEAE								
....ANACYSTIS	--	-	--	-	450	2	--	-
..HORMOGONALES								
...OSCILLATORIACEAE								
....OSCILLATORIA	820	14	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
.EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....EUGLENA	--	-	30	1	300	1	77	4

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
      * - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2%

06764000 SOUTH PLATTE AT JULESBURG, CO--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1978 TO SEPTEMBER 1979

DATE	JUL 3,79		AUG 7,79		SEP 25,79	
TIME	0832		1300		1020	
TOTAL CELLS/ML	9900		30000		40000	
DIVERSITY: DIVISION	1.2		0.7		1.4	
.CLASS	1.2		0.7		1.4	
..ORDER	1.6		1.2		1.8	
...FAMILY	2.5		1.3		2.1	
....GENUS	2.7		2.1		2.7	

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...HYDRODICTYACEAE						
....PEDIASTRUM	1500	15	1600	5	--	-
...MICRACTINIACEAE						
....GOLENKINIA	--	-	--	-	--	-
....MICRACTINIUM	260	3	--	-	960	2
...OOCYSTACEAE						
....ANKISTRODESMUS	190	2	--	-	240	1
....CHODATELLA	320	3	--	-	1200	3
....SELENASTRUM	--	-	--	-	--	-
....TREUBARIA	--	-	--	-	480	1
...SCENEDESMACEAE						
....ACTINASTRUM	260	3	1600	5	--	-
....SCENEDESMUS	3500#	35	1600	5	2900	7
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	780	8	1200	4	1400	4
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	2200#	22	14000#	47	11000#	27
....MELOSIRA	130	1	8300#	28	12000#	29
....STEPHANODISCUS	--	-	--	-	--	-
..PENNALES						
...ACHNANTHACEAE						
....ACHNANTHES	--	-	--	-	--	-
....RHOICOSPHENIA	--	-	--	-	--	-
...CYMBELLACEAE						
....CYMBELLA	--	-	--	-	--	-
...DIATOMACEAE						
....DIATOMA	--	-	--	-	--	-
...FRAGILARIACEAE						
....SYNEDRA	--	-	--	-	--	-
...GOMPHONEMATACEAE						
....GOMPHONEMA	--	-	--	-	--	-
...NAVICULACEAE						
....ENTOMONEIS	--	-	--	-	240	1
....GYROSIGMA	--	-	--	-	--	-
....NAVICULA	--	-	--	-	240	1
....NEIDIUM	--	-	--	-	--	-
....PINNULARIA	--	-	--	-	--	-
...NITZSCHIACEAE						
....DENTICULA	--	-	--	-	--	-
....NITZSCHIA	260	3	1600	5	1900	5
...SURIRELLACEAE						
....SURIRELLA	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE						
..CRYPTOMONADALES						
...CRYPTOMONADACEAE						
....CRYPTOMONAS	65	1	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....ANACYSTIS	520	5	--	-	--	-
..HORMOGONALES						
...OSCILLATORIACEAE						
....OSCILLATORIA	--	-	--	-	7200#	18
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....EUGLENA	--	-	--	-	480	1

NOTE: # - DOMINANT ORGANISM, EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

RESERVOIRS IN SOUTH PLATTE RIVER BASIN

06695500 ELEVENMILE CANYON RESERVOIR.--Lat 38°54'19", long 105°28'30", in N½SW¼ sec.20, T.13 S., R.72 W., Park County, Hydrologic Unit 10190001, at north end of dam on South Platte River, 8 mi (13 km) southwest of Lake George. DRAINAGE AREA, 963 mi^2 (2,494 km^2). PERIOD OF RECORD, October 1932 to current year. Prior to September 1938, published in WSP 1310. REVISED RECORDS, WSP 1730: Drainage area. GAGE, nonrecording gage read twice daily. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Denver Board of Water Commissioners); gage readings have been reduced to elevations NGVD.

Reservoir is formed by concrete arch dam; storage began in October 1932; dam completed in November 1932. Spillway built 5.00 ft (1.524 m) higher Aug. 1, 1957. Capacity, 97,780 acre-ft (121 hm^3) between elevations 8,488.25 ft (2,587.219 m), invert of outlet pipe, and 8,597.00 ft (2,620.366 m), crest of spillway. Dead storage is negligible. Figures given represent total contents. Water is for municipal use by city of Denver. Records furnished by Denver Board of Water Commissioners.

EXTREMES FOR PERIOD OF RECORD: Maximum contents observed, 111,200 acre-ft (137 hm^3) Apr. 28, 1970, elevation, 8,600.82 ft (2,621.530 m); no contents at times in 1935.

EXTREMES FOR CURRENT YEAR: Maximum contents observed, 102,500 acre-ft (126 hm^3) July 2, elevation, 8,598.36 ft (2,620.780 m); minimum observed, 89,580 acre-ft (110 hm^3) Nov. 23, elevation, 8,594.50 ft (2,619.604 m).

06701000 CHEESMAN LAKE.--Lat 39°12'26", long 105°16'18", in NW¼SW¼ sec.6, T.10 S., R.70 W., Douglas County, Hydrologic Unit 10190002, at dam on South Platte River, 4.1 mi (6.6 km) southwest of Deckers. DRAINAGE AREA, 1,752 mi^2 (4,538 km^2). PERIOD OF RECORD, September 1900 to December 1901, September 1902 to current year. Prior to October 1938, published in WSP 1310. Published as Lake Cheesman prior to 1947. REVISED RECORDS, WSP 1730: Drainage area. GAGE, nonrecording gage read twice daily. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Denver Board of Water Commissioners).

Reservoir is formed by masonry dam. Storage began September 1900. Dam completed about October 1902. Capacity, 79,060 acre-ft (97.5 hm^3) at gage height 212 ft (64.4 m), spillway crest, above sill of lowest gate. No dead storage. Figures given represent total contents. Water is for municipal use by city of Denver. Records furnished by Denver Board of Water Commissioners.

EXTREMES FOR PERIOD OF RECORD: Maximum contents observed, 81,360 acre-ft (100 hm^3) Apr. 29, 1970, gage height, 214.60 ft (65.410 m); minimum observed since appreciable storage was attained, 3,650 acre-ft (4.50 hm^3) Apr. 20, 1933, gage height, 55.02 ft (16.770 m).

EXTREMES FOR CURRENT YEAR: Maximum contents observed, 79,920 acre-ft (98.5 hm^3) July 4, 5, gage height, 212.98 ft (64.916 m); minimum observed, 36,270 acre-ft (44.7 hm^3) Feb. 14, 15, 18, gage height, 151.35 ft (46.131 m).

06709600 CHATFIELD LAKE.--Lat 39°33'26", long 105°03'27", in NW¼SE¼ sec.1, T.6 S., R.69 W., Jefferson County, Hydrologic Unit 10190002, near left end of dam on South Platte River at mouth of Plum Creek and 4.7 mi (7.6 km) southwest of courthouse in Littleton. DRAINAGE AREA, 3,018 mi^2 (7,817 km^2). PERIOD OF RECORD, May 1975 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army, Corps of Engineers); gage readings have been reduced to elevations NGVD.

Reservoir is formed by earthfill dam. Storage began May 29, 1975. Capacity, 235,000 acre-ft (290 hm^3) at elevation 5,500 ft or 1,676.400 m (crest of spillway). No dead storage. Figures given represent total contents. Reservoir is for flood control and recreation. Records furnished by U.S. Army, Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD: Maximum contents observed, 27,310 acre-ft (33.7 hm^3) July 6, 1979, elevation, 5,432.45 ft (1,655.811 m); no contents prior to May 29, 1975.

EXTREMES FOR CURRENT YEAR: Maximum contents observed, 27,310 acre-ft (33.7 hm^3) July 6, elevation, 5,432.45 ft (1,655.811 m); minimum observed, 7,570 acre-ft (9.33 hm^3) Nov. 28, elevation, 5,413.55 ft (1,650.050 m).

06712990 CHERRY CREEK LAKE.--Lat 39°39'03", long 104°51'13", in NW¼NE¼ sec.2, T.55 S., R.67 W., Arapahoe County, Hydrologic Unit 10190003, 0.8 mi (1.3 km) southwest from intersection of Interstate Highway 225 and Parker Road, 0.2 mi (1.4 km) from right end of dam, 1.6 mi (2.6 km) northwest of intersection of Parker and Airline Roads, and 11.5 mi (18.5 km) upstream from mouth. DRAINAGE AREA, 385 mi^2 (997 km^2). PERIOD OF RECORD, October 1960 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army, Corps of Engineers); gage readings have been reduced to elevations NGVD.

Reservoir is formed by earthfill dam. Storage began May 15, 1957; dam completed in June 1950. Capacity, 92,820 acre-ft (114 hm^3), at elevation 5,598.00 ft (1,706.270 m), crest of spillway. No dead storage. Figures given represent total contents. Reservoir is for flood control and recreation. Records furnished by U.S. Army, Corps of Engineers. NOTE: Capacity revised on basis of new capacity table dated January 1975.

EXTREMES FOR PERIOD OF RECORD: Maximum contents, 31,120 acre-ft (38.4 hm^3) June 3, 1973, elevation, 5,565.82 ft (1,696.462 m); minimum, 9,980 acre-ft (12.3 hm^3) Nov. 23, 24, 1978, elevation, 5,545.90 ft (1,690.390 m).

EXTREMES FOR CURRENT YEAR: Maximum contents, 11,310 acre-ft (13.9 hm^3) June 10, 11, elevation, 5,547.65 ft (1,690.924 m); minimum observed, 9,980 acre-ft (12.3 hm^3) Nov. 23, 24, elevation, 5,545.90 ft (1,690.390 m).

RESERVOIRS IN SOUTH PLATTE RIVER BASIN--Continued

MONTHEND ELEVATION IN FEET NGVD AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)	Gage height (feet)	Contents (acre-feet)	Change in contents (acre-feet)
	06695500 ELEVENMILE CANYON RESERVOIR			06701000 CHEESMAN LAKE		
Sept. 30.	8,595.01	91,200	-	151.70	36,470	-
Oct. 31.	8,594.61	89,930	-1,270	157.00	39,450	+2,980
Nov. 30.	8,594.52	89,650	-280	156.25	39,020	-430
Dec. 31.	8,594.85	90,690	+1,040	154.90	38,250	-770
CAL YR 1978			+8,650			+7,940
Jan. 31.	8,594.83	90,630	-60	152.60	36,960	-1,290
Feb. 28.	8,594.92	90,910	+280	151.80	36,520	-440
Mar. 31.	8,594.86	90,720	-190	158.21	40,150	+3,630
Apr. 30.	8,594.84	90,660	-60	175.50	50,970	+10,820
May 31.	8,595.49	92,760	+2,100	191.30	62,220	+11,250
June 30.	8,598.30	102,300	+9,540	212.80	79,770	+17,550
July 31.	8,597.04	97,920	-4,380	211.78	78,870	-900
Aug. 31.	8,596.94	97,580	-340	211.98	79,050	+180
Sept. 30.	8,597.01	97,810	+230	212.01	79,070	+20
WTR YR 1979			+6,610			+42,600

MONTHEND ELEVATION IN FEET NGVD AND CONTENTS, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

	06709600 CHATFIELD LAKE			06712990 CHERRY CREEK LAKE		
Sept. 30.	5,414.43	8,230	-	5,546.15	10,160	-
Oct. 31.	5,415.08	8,740	+510	5,546.01	10,060	-100
Nov. 30.	5,413.58	7,590	-1,150	5,545.93	10,000	-60
Dec. 31.	5,414.12	8,000	+410	5,546.00	10,050	+50
CAL YR 1978			-1,370			-1,310
Jan. 31.	5,414.25	8,100	+100	5,546.13	10,150	+100
Feb. 28.	5,414.35	8,170	+70	5,546.28	10,260	+110
Mar. 31.	5,414.66	8,410	+240	5,546.58	10,490	+230
Apr. 30.	5,415.36	8,960	+550	5,547.00	10,800	+310
May 31.	5,424.47	17,330	+8,370	5,547.41	11,120	+320
June 30.	5,431.12	25,360	+8,030	5,547.43	11,140	+20
July 31.	5,431.50	25,910	+550	5,547.00	10,800	-340
Aug. 31.	5,431.70	26,200	+290	5,547.02	10,820	+20
Sept. 30.	5,431.79	26,330	+130	5,546.64	10,530	-290
WTR YR 1979			+18,100			+370

06823000 NORTH FORK REPUBLICAN RIVER AT COLORADO-NEBRASKA STATE LINE

LOCATION.--Lat 40°04'10", long 102°03'05", in sec.10, T.1 N., R.42 W., Dundy County, NE, Hydrologic Unit 10250002, on right bank 100 ft (30 m) east of Colorado-Nebraska State line and 9.5 mi (15.3 km) upstream from confluence with Arikaree River.

DRAINAGE AREA.--1,360 mi² (3,520 km²), approximately, of which about 100 mi² (260 km²) contribute directly to surface runoff.

PERIOD OF RECORD.--October 1930 to current year. Prior to October 1932, published as North Fork of Arikaree River at Colorado-Nebraska State line. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1240: 1947(M). WSP 1390: 1934. WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Steel-piling control since January 1965. Datum of gage is 3,336.09 ft (1,016.840 m)National Geodetic Vertical Datum of 1929. Prior to Oct. 17, 1934, nonrecording gage at present site and datum.

REMARKS.--Records good. Natural flow affected by diversion in Pioneer Canal for irrigation of about 2,700 acres (10.9 km²) in Colorado and Nebraska.

AVERAGE DISCHARGE.--49 years, 47.7 ft³/s (1.351 m³/s), 34,560 acre-ft/yr (42.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,110 ft³/s (59.8 m³/s) Apr. 28, 1947, gage height, 5.92 ft (1.804 m), from rating curve extended above 800 ft³/s (22.7 m³/s), on basis of slope-area measurement of peak flow; no flow Aug. 25, 26, 1932.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 75 ft³/s (2.12 m³/s) Mar. 22, gage height, 1.25 ft (0.381 m); maximum gage height, 1.76 ft (0.536 m) Dec. 4 (backwater from ice); minimum daily discharge, 2.5 ft³/s (0.071 m³/s) July 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	12	51	36	42	57	57	37	23	9.6	9.6	21
2	3.0	14	53	38	38	57	57	38	23	7.5	8.0	18
3	4.5	18	41	40	38	56	56	28	22	6.3	6.0	17
4	4.0	19	44	38	40	55	55	26	17	27	5.4	17
5	4.0	23	53	38	44	56	53	27	16	34	4.0	17
6	6.3	24	52	38	48	57	52	29	16	27	4.5	16
7	8.3	24	50	38	54	57	51	21	15	22	4.5	9.6
8	8.9	20	45	40	60	59	50	16	7.6	11	4.5	9.6
9	8.0	22	42	43	64	58	50	19	19	9.9	6.4	8.8
10	8.5	22	50	46	66	57	51	24	23	8.3	7.7	9.0
11	7.5	22	56	47	67	56	55	21	21	11	10	7.8
12	7.9	26	56	38	65	58	52	21	9.1	8.6	8.7	8.7
13	11	28	54	36	66	58	50	23	6.0	8.1	10	9.3
14	13	26	53	38	67	57	49	23	5.5	7.2	11	9.6
15	12	29	52	40	65	57	49	20	4.5	6.8	13	18
16	14	29	51	40	63	58	48	12	6.3	7.3	11	19
17	16	28	51	40	62	57	48	9.6	4.9	6.7	7.4	20
18	14	28	52	40	58	59	47	9.9	9.2	6.3	7.3	20
19	14	34	52	42	59	60	47	9.3	10	7.0	9.4	13
20	13	30	54	42	60	59	47	9.1	7.9	3.5	11	11
21	14	45	52	42	58	61	47	9.5	8.0	2.5	16	17
22	17	49	51	42	57	68	47	9.2	8.6	7.8	8.0	14
23	25	49	51	40	58	69	48	13	9.5	8.2	7.3	9.6
24	19	49	50	40	56	66	49	19	11	8.7	18	8.8
25	14	50	49	38	54	64	23	12	49	9.3	21	7.8
26	12	53	48	36	54	62	32	6.7	38	9.1	15	7.9
27	13	51	47	34	54	60	44	5.7	21	6.9	17	7.3
28	12	50	47	34	55	58	27	4.5	44	7.7	18	6.5
29	12	51	46	36	---	58	29	4.5	32	6.2	21	6.1
30	13	51	42	38	---	58	30	20	14	6.3	22	7.2
31	11	---	40	42	---	57	---	23	---	9.2	21	---
TOTAL	343.4	976	1535	1220	1572	1829	1400	550.0	501.1	317.0	343.7	371.6
MEAN	11.1	32.5	49.5	39.4	56.1	59.0	46.7	17.7	16.7	10.2	11.1	12.4
MAX	25	53	56	47	67	69	57	38	49	34	22	21
MIN	3.0	12	40	34	38	55	23	4.5	4.5	2.5	4.0	6.1
AC-FT	681	1940	3040	2420	3120	3630	2780	1090	994	629	682	737

CAL YR 1978 TOTAL 11385.0 MEAN 31.2 MAX 68 MIN 3.0 AC-FT 22580
WTR YR 1979 TOTAL 10958.8 MEAN 30.0 MAX 69 MIN 2.5 AC-FT 21740

06826000 BONNY RESERVOIR NEAR HALE, CO

LOCATION.--Lat 39°37'24", long 102°10'26", in SE¼SE¼ sec.9, T.5 S., R.43 W., Yuma County, Hydrologic Unit 10250003, in stair well to outlet conduit of Bonny Dam on South Fork Republican River, 1.7 mi (2.7 km) west of Hale, and 3.0 mi (4.8 km) downstream from Landsman Creek.

DRAINAGE AREA.--1,820 mi² (4,710 km²), approximately.

PERIOD OF RECORD.--October 1950 to current year.

REVISED RECORDS.--WSP 1710: 1955.

GAGE.--Water-stage recorder. Datum of gage is at National Geodetic Vertical Datum of 1929 (levels by Water and Power Resources Service). Prior to Oct. 1, 1967, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by an earthfill dam. Storage began July 6, 1950; dam completed May 4, 1951. Capacity of reservoir, 170,200 acre-ft (210 hm³) below elevation 3,710 ft (1,130.8 m), crest of spillway, of which 128,800 acre-ft (159 hm³) is for flood control and 39,900 acre-ft (49.2 hm³) is for irrigation. Dead storage, 1,420 acre-ft (1.75 hm³) below elevation 3,635.0 ft (1,107.95 m), sill of trashrack at outlet conduit. Figures given represent total contents.

COOPERATION.--Records furnished by Water and Power Resources Service.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 55,030 acre-ft (67.9 hm³) May 17, 1957, elevation, 3,678.10 ft (1,121.085 m); minimum observed since appreciable contents was attained, 22,520 acre-ft (27.83 hm³) Oct. 6-14, 1952, elevation, 3,661.20 ft (1,115.934 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 37,180 acre-ft (45.8 hm³) May 21, 22, elevation, 3,669.89 ft (1,118.582 m); minimum, 32,770 acre-ft (40.4 hm³) Sept. 30, elevation, 3,667.50 ft (1,117.854 m).

Capacity table (elevation, in feet, and total contents, in acre-feet)
(Furnished by Water and Power Resources Service)

3,665.0	28,460
3,670.0	37,390

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33560	32790	33460	34390	35410	35500	36210	36740	37000	36710	35930	34950
2	33530	32810	33470	34410	35410	35520	36250	36760	36980	36670	35950	34910
3	33490	32820	33490	34430	35410	35540	36290	36780	36980	36570	35910	34840
4	33420	32840	33530	34430	35410	35580	36330	36800	36930	36520	35890	34760
5	33360	32880	33530	34450	35410	35560	36350	36800	36910	36520	35840	34710
6	33330	32880	33620	34450	35410	35560	36380	36780	36880	36440	35800	34630
7	33290	32880	33650	34470	35390	35560	36420	36740	36800	36460	35730	34600
8	33290	32880	33670	34480	35360	35560	36440	36780	36840	36420	35670	34560
9	33240	32900	33690	34500	35360	35580	36460	36780	36880	36380	35520	34500
10	33200	32900	33720	34540	35360	35600	36460	36800	36910	36360	35450	34410
11	33170	32900	33760	34580	35360	35580	36520	36820	36950	36310	35410	34350
12	33080	32920	33780	34630	35390	35580	36560	36840	36930	36250	35360	34300
13	33020	32920	33810	34670	35390	35580	36570	36860	36930	36210	35210	34250
14	33000	32920	33850	34710	35410	35540	36590	36880	36910	36140	35170	34250
15	32950	32930	33890	34720	35410	35500	36630	36910	36840	36080	35150	34210
16	32920	32930	33900	34780	35430	35480	36670	36930	36780	36060	35150	34120
17	32900	32950	33940	34800	35430	35460	36690	36980	36720	36060	35150	34120
18	32860	32970	33990	34870	35430	35450	36720	36980	36720	36060	35260	34070
19	32860	32990	34030	34910	35430	35430	36740	36980	36710	36040	35240	34030
20	32840	33000	34070	34950	35430	35410	36760	37160	36670	36040	35230	33940
21	32820	33020	34100	34990	35430	35500	36760	37180	36670	36000	35210	33890
22	32820	33060	34140	35040	35430	35650	36760	37180	36710	35950	35130	33890
23	32820	33110	34180	35080	35430	35710	36760	37140	36860	35930	35110	33850
24	32790	33150	34230	35090	35430	35780	36760	37120	36890	35870	35090	33800
25	32790	33240	34250	35130	35430	35800	36780	37100	36890	35850	35210	33760
26	32790	33290	34280	35170	35430	35850	36760	37100	36910	35850	35190	33720
27	32770	33350	34320	35190	35460	35910	36740	37060	36860	35820	35150	33710
28	32770	33360	34350	35230	35500	35960	36720	37020	36780	35820	35130	33670
29	32790	33400	34350	35300	---	36000	36720	36980	36760	35740	35110	33620
30	32770	33460	34370	35340	---	36060	36720	37000	36760	35870	35040	33580
31	32790	---	34390	35360	---	36120	---	37000	---	35870	34990	---
MAX	33560	33460	34390	35380	35500	36120	36780	37180	37000	36710	35950	34950
MIN	32770	32790	33460	34390	35360	35410	36210	36740	36670	35740	34990	33580

WTR YR 1979 MAX 37180 MIN 32770

06826500 SOUTH FORK REPUBLICAN RIVER NEAR HALE, CO

LOCATION.--Lat 39°37'26", long 102°09'47", in SW¼NE¼ sec.15, T.5 S., R.43 W., Yuma County, Hydrologic Unit 10250003, on right bank 0.5 mi (0.8 km) downstream from Bonny Dam and 1.2 mi (1.9 km) west of Hale.

DRAINAGE AREA.--1,825 mi² (4,730 km²), approximately.

PERIOD OF RECORD.--October 1946 to September 1948, May 1951 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 3,610 ft (1,100 m), from topographic map. Oct. 1, 1946, to Sept. 30, 1948, at site 4 mi (6 km) downstream at different datum.

REMARKS.--Records good except those for period of no gage-height record which are fair. Flow regulated by Bonny Reservoir since July 6, 1950 (station 06826000). Many diversions above station for irrigation. Water diverted by Hale ditch from Bonny Reservoir bypasses station (1,360 acre-ft or 1.68 hm³ diverted during current year). Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Hale ditch diversion records furnished by State Engineer of Colorado.

AVERAGE DISCHARGE.--28 years (water years 1952-79), 21.4 ft³/s (0.606 m³/s), 15,500 acre-ft/yr (19.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,790 ft³/s (107 m³/s) May 28, 1947, gage height, 4.71 ft (1.436 m), site and datum then in use; maximum gage height, 4.84 ft (1.475 m) Apr. 28, 1947, site and datum then in use; no flow Aug. 11-13, 1947.

EXTREMES OUTSIDE PERIOD OF RECORD.--Greatest flood known occurred May 31, 1935, stage and discharge not determined. A discharge of 103,000 ft³/s (2,920 m³/s) was determined at a site near Newton 5.5 mi (8.8 km) upstream, with a drainage area of approximately 1,270 mi² (3,290 km²).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 58 ft³/s (1.64 m³/s) at 0300 Mar. 13, gage height, 4.59 ft (1.399 m); minimum daily, 2.9 ft³/s (0.082 m³/s) July 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	4.9	4.7	5.8	20	41	4.5	5.1	9.1	4.9	5.2	7.4
2	4.9	4.7	4.7	5.8	25	41	4.3	5.6	9.1	5.1	5.8	5.8
3	5.0	4.9	4.7	6.6	30	41	4.4	5.0	8.9	5.4	5.8	5.2
4	4.8	5.1	5.2	5.8	30	41	4.3	4.9	8.7	5.4	5.8	5.2
5	4.8	4.9	4.7	6.6	30	41	4.2	5.0	8.7	5.9	5.2	5.2
6	4.7	5.1	4.7	6.6	30	52	4.4	5.2	8.7	4.8	4.7	5.2
7	5.0	5.0	4.7	6.6	30	57	4.5	5.0	9.0	4.8	4.7	5.2
8	5.0	4.9	4.7	6.6	30	57	4.4	5.0	9.6	4.5	4.2	5.2
9	4.9	5.0	4.7	6.6	30	57	4.4	5.3	9.2	4.3	4.7	5.2
10	4.7	5.3	4.7	7.4	30	57	4.5	5.9	7.2	3.8	4.7	5.8
11	4.8	5.8	4.7	7.4	30	57	4.6	5.1	7.1	4.0	4.7	5.8
12	4.9	5.8	4.7	8.2	30	57	4.5	5.3	7.1	3.9	4.7	5.8
13	4.8	5.8	4.7	9.0	30	57	4.3	5.2	7.0	3.8	4.2	5.2
14	4.8	5.8	4.7	7.4	30	57	4.4	5.0	7.1	3.9	4.7	5.8
15	4.9	5.8	4.7	7.4	30	55	4.4	5.6	6.8	3.8	5.2	5.2
16	5.0	6.6	4.2	6.5	30	43	4.3	6.0	6.7	3.9	4.7	5.2
17	4.9	5.2	5.2	6.5	30	31	4.0	7.0	6.9	4.2	4.2	5.2
18	4.9	4.7	5.2	6.5	30	31	4.5	6.4	7.1	4.1	5.2	5.2
19	4.9	4.7	5.2	6.5	30	22	4.6	6.8	6.4	4.1	5.2	5.2
20	5.3	4.7	5.8	6.5	44	9.7	4.5	8.7	5.6	3.6	4.7	5.2
21	5.2	4.7	5.2	6.5	44	4.3	4.5	7.8	5.6	3.6	4.7	5.2
22	5.8	4.7	5.2	6.5	41	4.7	4.8	7.6	5.7	3.7	5.8	5.2
23	5.1	4.7	5.8	6.5	40	4.4	4.8	7.4	7.5	3.9	5.8	5.2
24	5.0	4.7	5.8	6.5	40	4.1	4.9	7.7	5.6	3.7	5.8	5.2
25	4.7	5.2	6.6	6.5	40	4.1	4.8	8.1	5.5	3.3	8.2	5.2
26	4.8	4.7	5.8	6.5	41	4.3	4.9	8.3	4.9	3.4	6.6	5.2
27	4.9	4.7	5.8	6.5	41	4.2	4.8	8.5	4.9	3.2	6.6	5.2
28	4.7	4.7	6.6	6.5	41	4.2	5.0	8.4	5.0	3.1	6.6	5.2
29	4.8	4.7	5.8	6.5	---	4.2	4.9	9.4	5.0	2.9	6.6	5.2
30	4.6	4.7	5.8	6.5	---	4.2	4.8	9.5	5.2	5.2	6.6	5.2
31	4.6	---	5.8	6.5	---	4.3	---	9.9	---	5.0	6.6	---
TOTAL	152.2	152.2	160.8	207.8	927	951.7	136.2	205.7	210.9	129.2	168.2	161.2
MEAN	4.91	5.07	5.19	6.70	33.1	30.7	4.54	6.64	7.03	4.17	5.43	5.37
MAX	5.8	6.6	6.6	9.0	44	57	5.0	9.9	9.6	5.9	8.2	7.4
MIN	4.6	4.7	4.2	5.8	20	4.1	4.0	4.9	4.9	2.9	4.2	5.2
AC-FT	302	302	319	412	1840	1890	270	408	418	256	334	320

CAL YR 1978 TOTAL 2922.6 MEAN 8.01 MAX 57 MIN 4.0 AC-FT 5800
WTR YR 1979 TOTAL 3563.1 MEAN 9.76 MAX 57 MIN 2.9 AC-FT 7070

NOTE.--NO GAGE-HEIGHT RECORD JAN. 16 TO FEB. 19.

ARKANSAS RIVER BASIN

07081200 ARKANSAS RIVER NEAR LEADVILLE, CO

LOCATION.--Lat 39°15'26", long 106°20'35", in NW¼NW¼ sec.21, T.9 S., R.80 W., Lake County, Hydrologic Unit 11020001, 500 ft (150 m) downstream from confluence of East Fork Arkansas River and Tennessee Creek, 0.5 mi (0.8 km) downstream from highway bridge, and 2.8 mi (4.5 km) west of Leadville.

DRAINAGE AREA.--97.2 mi^2 (251.7 km^2).

PERIOD OF RECORD.--October 1967 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 9,730 ft (2,966 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Transmountain diversion from Colorado River basin to Arkansas River basin enters above this station (see elsewhere in this report). Small diversions upstream for irrigation and municipal use. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--12 years, 70.7 ft^3/s (2.002 m^3/s), 51,220 acre-ft/yr (63.2 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 894 ft^3/s (25.3 m^3/s) June 15, 1978, gage height, 4.47 ft (1.362 m); minimum daily, 7.0 ft^3/s (0.20 m^3/s) Feb. 3-20, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 865 ft^3/s (24.5 m^3/s) at 0400 June 7, gage height, 4.24 ft (1.292 m); minimum daily, 12 ft^3/s (0.34 m^3/s) Jan. 23 to Feb. 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	21	17	15	12	13	15	34	378	432	75	33
2	19	21	17	15	12	13	14	34	350	390	74	32
3	20	20	16	15	12	13	13	30	413	365	71	33
4	20	20	16	15	12	13	13	31	501	339	66	29
5	20	20	15	15	12	13	13	39	607	317	62	31
6	19	20	15	15	12	13	13	45	703	304	63	29
7	19	18	15	15	12	13	14	44	808	292	62	27
8	19	18	15	15	12	13	14	40	688	263	61	28
9	19	19	15	15	12	13	15	39	498	235	65	29
10	19	19	15	15	12	13	15	37	456	211	63	27
11	18	18	15	15	12	13	15	36	468	199	58	28
12	17	18	15	15	12	13	16	37	495	185	57	28
13	16	18	15	15	12	13	16	38	597	184	56	27
14	18	18	15	14	12	13	17	49	693	176	75	26
15	17	16	15	14	12	13	17	59	727	174	88	24
16	16	16	15	14	12	13	18	75	713	166	78	25
17	18	17	15	14	12	13	19	114	687	155	83	24
18	18	17	15	13	12	14	20	168	650	147	80	25
19	18	17	15	13	13	14	22	250	585	133	82	24
20	17	18	15	13	13	14	22	345	451	131	76	26
21	19	18	15	13	13	14	23	400	436	131	68	31
22	22	18	15	13	13	14	26	400	477	135	57	28
23	22	18	15	12	13	15	29	430	516	130	50	27
24	21	17	15	12	13	15	32	489	518	122	47	26
25	23	17	15	12	13	15	30	495	506	120	46	27
26	21	17	15	12	13	15	29	480	488	114	42	25
27	20	17	15	12	13	15	33	534	473	102	41	27
28	20	17	15	12	13	15	33	603	481	101	36	27
29	19	17	15	12	---	15	31	646	456	94	34	25
30	18	17	15	12	---	15	32	635	445	88	34	24
31	22	---	15	12	---	15	---	487	---	81	34	---
TOTAL	593	542	471	424	346	426	619	7143	16264	6016	1884	822
MEAN	19.1	18.1	15.2	13.7	12.4	13.7	20.6	230	542	194	60.8	27.4
MAX	23	21	17	15	13	15	33	646	808	432	88	33
MIN	16	16	15	12	12	13	13	30	350	81	34	24
AC-FT	1180	1080	934	841	686	845	1230	14170	32260	11930	3740	1630

CAL YR 1978 TOTAL 30152.0 MEAN 82.6 MAX 747 MIN 7.0 AC-FT 59810
WTR YR 1979 TOTAL 35550.0 MEAN 97.4 MAX 808 MIN 12 AC-FT 70510

07082400 TURQUOISE LAKE NEAR LEADVILLE, CO

LOCATION.--Lat 39°15'10", long 106°22'26", in SW¼NE¼ sec.19, T.9 S., R.80 W., Lake County, Hydrologic Unit 11020001, in control house of Sugar Loaf Dam on Lake Fork, 4.0 mi (6.4 km) west of Leadville and 4.6 mi (7.4 km) upstream from mouth.

DRAINAGE AREA.--28.1 mi^2 (72.8 km^2).

PERIOD OF RECORD.--April 1968 to current year.

GAGE.--Nonrecording gage read once daily. Datum of gage is 9,754.00 ft (2,973.019 m) National Geodetic Vertical Datum of 1929 (levels by Water and Power Resources Service); gage readings have been reduced to elevations NGVD.

REMARKS.--Reservoir formed by earthfill dam completed in 1909, capacity, 17,400 acre-ft (21.5 hm^3). Enlargement of dam began Dec. 8, 1965, and closure was made Apr. 15, 1968. Enlarged capacity, 129,400 acre-ft (160 hm^3) at elevation 9,869.4 ft (3,008.19 m), crest of spillway. Dead storage, 2,770 acre-ft (3.42 hm^3) below elevation 9,765.90 ft (2,976.646 m), sill of lowest outlet. Figures given are total contents. Since Apr. 15, 1968, Turquoise Lake has been a regulatory reservoir for the Fryingpan-Arkansas project and stores water imported from the Colorado River basin through Charles H. Boustead Tunnel for irrigation, municipal water supply, and power development. It also stores water for industrial use, and water imported from the Colorado River basin through Busk-Ivanhoe tunnel for irrigation and through Homestake tunnel for municipal water supply.

COOPERATION.--Records furnished by Water and Power Resources Service.

EXTREMES (at 0800 of following day) FOR PERIOD OF RECORD.--Maximum contents, 121,300 acre-ft (150 hm^3) Aug. 2, 1979, elevation, 9,864.80 ft (3,006.791 m); minimum since appreciable storage was attained, 14,510 acre-ft (17.9 hm^3) Oct. 1, 1968, elevation, 9,782.85 ft (2,981.813 m).

EXTREMES (at 0800 of following day) FOR CURRENT YEAR.--Maximum contents, 121,300 acre-ft (150 hm^3) Aug. 2, elevation, 9,864.80 ft (3,006.791 m); minimum, 66,060 acre-ft/yr (81.4 hm^3) Mar. 1, elevation, 9,830.57 ft (2,996.358 m).

MONTHEND ELEVATION IN FEET NGVD AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.	9,841.09	81,840	-
Oct. 31.	9,838.46	77,760	-4,080
Nov. 30.	9,837.41	76,160	-1,600
Dec. 31.	9,835.89	73,860	-2,300
CAL YR 1978			+13,790
Jan. 31.	9,833.00	69,570	-4,290
Feb. 28.	9,830.67	66,210	-3,360
Mar. 31.	9,840.69	81,210	+15,000
Apr. 30.	9,841.09	81,840	+630
May 31.	9,835.86	73,810	-8,030
June 30.	9,857.34	108,400	+34,590
July 31.	9,864.72	121,100	+12,700
Aug. 31.	9,857.02	107,900	-13,200
Sept. 30.	9,855.77	105,800	-2,100
WTR YR 1979			+23,960

07083000 HALFMOON CREEK NEAR MALTA, CO

(Hydrologic bench-mark station)

LOCATION.--Lat 39°10'20", long 106°23'19", in SE¼SE¼ sec.13, T.10 S., R.81 W., Lake County, Hydrologic Unit 11020001, on right bank 1.4 mi (2.3 km) upstream from culvert, 3.3 mi (5.3 km) upstream from mouth, and 4.3 mi (6.9 km) southwest of Malta.

DRAINAGE AREA.--23.6 mi² (61.1 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1946 to current year.

REVISED RECORDS.--WSP 2121: Drainage area at site 1.4 mi (2.3 km) downstream. WRD Colo. 1968: 1967(M).

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 9,830 ft (2,996 m), from topographic map. Prior to Oct. 19, 1966, at sites 1.4 mi (2.3 km) downstream at different datums.

REMARKS.--Records good except those for winter period, which are fair. No regulation or diversion above station.

AVERAGE DISCHARGE.--33 years, 28.2 ft³/s (0.799 m³/s), 20,430 acre-ft/yr (25.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 450 ft³/s (12.7 m³/s) June 30, 1957, gage height, 3.48 ft (1.061 m), site and datum then in use; minimum not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 150 ft³/s (4.2 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
May 28	2100	188	5.32	3.07	0.936	June 16	2300	235	6.66	3.21	0.978
June 6	2000	219	6.20	3.17	0.966	June 24	2200	*274	7.76	3.30	1.006

Minimum daily discharge, 1.8 ft³/s (0.051 m³/s) Mar. 19.

REVISIONS.--The date of the maximum discharge in WDR CO-76-1 has been revised to June 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.1	6.3	4.1	2.9	3.2	2.8	2.7	7.8	78	226	48	19
2	8.8	6.1	4.1	2.9	3.2	2.8	2.9	7.9	79	199	46	18
3	8.5	6.3	3.9	2.9	3.2	2.7	2.7	7.2	92	175	45	19
4	8.5	5.8	4.1	3.3	3.2	2.5	2.4	7.5	112	155	44	18
5	8.2	5.8	4.1	3.6	3.2	2.7	2.5	8.6	145	155	43	17
6	8.2	5.0	3.5	3.6	3.2	2.6	2.7	10	173	150	43	16
7	8.2	5.3	4.4	3.7	3.2	2.4	2.9	12	180	138	38	16
8	7.8	5.6	3.9	4.2	3.2	2.1	3.1	10	127	136	40	16
9	7.8	5.5	3.9	3.8	3.2	2.4	3.4	9.1	92	130	38	15
10	7.6	5.3	4.1	3.7	3.2	2.4	3.2	9.2	82	124	36	15
11	7.3	5.4	4.4	3.9	3.2	2.5	3.0	8.0	87	121	34	15
12	7.0	5.2	4.2	4.0	3.2	2.7	3.0	7.1	108	124	33	15
13	6.9	5.1	4.4	4.2	3.2	2.8	3.0	7.4	156	125	33	15
14	7.0	5.1	4.1	3.9	3.3	2.3	3.0	9.4	200	123	40	14
15	6.9	4.6	4.1	4.1	3.2	2.7	3.1	13	200	115	46	14
16	6.9	4.2	4.1	3.7	3.2	2.4	4.0	20	205	110	43	14
17	6.9	4.2	4.1	3.7	3.2	2.3	5.5	28	199	101	40	12
18	7.2	4.2	4.1	3.7	3.3	2.3	6.4	37	175	95	39	12
19	7.6	4.0	4.4	3.5	3.3	1.8	6.8	48	144	83	36	12
20	7.5	4.0	4.1	3.2	3.3	1.9	6.2	58	117	79	35	13
21	6.9	4.1	4.1	3.4	3.2	2.3	6.4	61	132	82	36	14
22	8.4	4.3	4.1	3.5	3.3	2.3	6.6	64	166	80	33	12
23	8.1	3.9	4.1	3.4	3.3	2.3	7.0	78	190	75	30	11
24	8.4	3.5	3.9	3.5	3.3	2.4	7.2	92	210	72	28	11
25	8.1	4.2	4.1	3.5	3.2	3.0	6.4	99	221	71	28	11
26	7.6	4.0	3.7	3.5	3.2	3.2	6.1	117	213	68	27	11
27	7.7	3.9	3.7	3.5	3.0	3.1	6.5	144	219	66	25	11
28	7.1	4.4	3.5	3.5	2.9	3.1	6.9	160	219	60	22	11
29	6.9	4.6	3.7	3.5	---	2.8	6.4	157	218	58	21	10
30	6.6	3.8	3.8	3.5	---	2.5	6.8	128	218	54	23	10
31	6.5	---	3.3	3.4	---	2.6	---	93	---	50	21	---
TOTAL	236.2	143.7	124.1	110.7	89.8	78.7	138.8	1518.2	4757	3400	1094	417
MEAN	7.62	4.79	4.00	3.57	3.21	2.54	4.63	49.0	159	110	35.3	13.9
MAX	9.1	6.3	4.4	4.2	3.3	3.2	7.2	160	221	226	48	19
MIN	6.5	3.5	3.3	2.9	2.9	1.8	2.4	7.1	78	50	21	10
AC-FT	469	285	246	220	178	156	275	3010	9440	6740	2170	827

CAL YR 1978 TOTAL 11556.0 MEAN 31.7 MAX 255 MIN 2.1 AC-FT 22920
WTR YR 1979 TOTAL 12108.2 MEAN 33.2 MAX 226 MIN 1.8 AC-FT 24020

07083000 HALFMOON CREEK NEAR MALTA, CO--Continued
(Hydrologic bench-mark station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1966 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: May 1967 to current year.

INSTRUMENTATION.--Water temperature recorder since May 23, 1967.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum, 17.5°C Aug. 5, 1979; minimum, freezing point on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum, 17.5°C Aug. 5; minimum, freezing point on many days during winter and spring months.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, (COLS. PER 100 ML)
OCT 17...	1200	6.7	92	7.9	4.0	8.9	K2	<1	K2
NOV 14...	1100	4.9	80	8.5	.0	9.6	K1	<1	K5
DEC 12...	1435	4.2	89	7.4	.0	--	K2	<1	K2
JAN 19...	1130	3.6	91	8.4	.0	9.9	<1	<1	<1
FEB 13...	1230	3.0	95	7.7	.0	--	<1	<1	K2
MAR 15...	1005	2.6	98	7.7	.0	10.2	<1	<1	<1
APR 18...	1115	4.4	90	7.3	5.0	9.2	<1	<1	K2
MAY 16...	1020	18	78	6.8	4.0	8.5	<1	<1	K1
JUN 12...	1257	94	55	6.9	9.0	7.9	<1	<1	<1
JUL 11...	0930	116	45	7.3	5.0	9.5	<1	K1	K5
AUG 07...	1230	40	62	6.3	10.0	8.0	--	--	--
SEP 12...	1345	15	78	6.8	12.5	7.1	--	--	--

DATE	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNESIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)
OCT 17...	39	3	10	3.5	1.5	.1	.7	36	5.9
NOV 14...	41	1	10	4.0	2.6	.2	.7	40	6.4
DEC 12...	41	7	10	3.9	1.7	.1	.9	34	9.6
JAN 19...	41	5	10	4.0	1.7	.1	.6	36	6.2
FEB 13...	48	9	12	4.4	1.8	.1	.6	39	8.2
MAR 15...	52	15	14	4.1	1.9	.1	.7	37	5.6
APR 18...	39	2	9.4	3.8	1.6	.1	.7	37	5.0
MAY 16...	37	12	8.8	3.6	1.8	.1	.7	25	12
JUN 12...	26	7	6.5	2.4	1.2	.1	.5	19	4.5
JUL 11...	21	5	5.5	1.8	.6	.1	.4	16	4.9
AUG 07...	30	5	7.9	2.5	1.3	.1	.5	25	5.9
SEP 12...	34	7	8.7	2.9	1.5	.1	.7	27	7.3

K BASED ON NON-IDEAL COLONY COUNT.

07083000 HALFMOON CREEK NEAR MALTA, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
OCT									
17...	.3	.4	6.0	46	50	.06	.83	.13	.000
NOV									
14...	.5	.1	6.2	51	55	.07	.68	--	.000
DEC									
12...	.6	.1	6.5	55	54	.07	.64	.15	.000
JAN									
19...	.4	.1	6.8	40	52	.05	.39	.13	.010
FEB									
13...	.3	.1	7.4	51	58	.07	.42	.13	.020
MAR									
15...	--	.1	7.1	49	--	.07	.34	.12	.000
APR									
18...	.3	.1	6.4	50	50	.07	.60	.12	.000
MAY									
16...	.4	.2	5.0	39	48	.05	1.94	.11	.000
JUN									
12...	.5	.1	4.1	37	31	.05	9.39	.08	.000
JUL									
11...	.2	.1	3.7	28	27	.04	8.77	.12	.000
AUG									
07...	.3	.1	4.0	40	38	.05	4.32	.08	.080
SEP									
12...	.2	.2	5.4	33	43	.04	1.34	.09	.010

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)
JAN							
19...	1130	0	100	1	0	11	60
JUN							
12...	1257	1	0	0	0	1	200

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)
JAN							
19...	2	10	.0	0	1	10	.09
JUN							
12...	24	10	.0	1	0	10	.21

07083000 HALFMOON CREEK NEAR MALTA, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RADIUM 226, DIS-SOLVED, RADON METHOD (PCI/L)	URANIUM NATURAL DIS-SOLVED (UG/L AS U)	PCB, TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)
JAN 19...	1130	<.4	<.4	.7	<.4	.7	<.4	.23	<.4	.0	.00

DATE	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)
JAN 19...	.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JAN 19...	.00	.00	.00	.00	.00	0	.00	.00	.00	.00

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	12.0	2.5	5.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2	11.5	3.0	5.5	.0	.0	.0	.0	.0	.0	.0	.0	.0
3	9.5	.5	6.5	.5	.0	.0	.0	.0	.0	.0	.0	.0
4	9.5	.5	6.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5	9.5	.0	5.5	.5	.0	.0	.0	.0	.0	.0	.0	.0
6	9.5	.5	4.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7	8.5	.5	4.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8	9.5	.5	4.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9	10.0	1.0	4.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10	9.5	1.0	3.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11	10.0	1.5	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0
12	10.0	2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13	8.0	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14	8.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15	9.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.5	.0
16	8.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.5	.0
17	7.0	.5	.0	.0	.0	.0	.0	.0	.0	.0	.5	.0
18	5.5	2.5	.0	.0	.0	.0	.0	.0	.0	.0	.5	.0
19	8.5	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20	6.5	.5	.0	.0	.0	.0	.0	.0	.0	.0	.5	.0
21	6.5	3.0	.0	.0	.0	.0	.0	.0	.0	.0	.5	.0
22	3.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.5	.0
23	6.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.5	.0
24	5.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.5	.0
25	2.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.5	.0
26	2.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.0	.0
27	3.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.0	.0
28	4.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.5	.0
29	4.0	.0	.0	.0	.0	.0	.0	.0	---	---	2.0	.0
30	3.5	.0	.0	.0	.0	.0	.0	.0	---	---	2.5	.0
31	6.5	.5	---	---	.0	.0	.0	.0	---	---	1.0	.0

07083000 HALFMOON CREEK NEAR MALTA, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	1.0	.0	10.0	2.5	8.5	.5	8.5	4.0	15.5	5.5	15.5	5.0
2	1.0	.0	3.5	.0	11.5	1.5	10.0	3.5	15.5	6.0	14.5	5.0
3	1.0	.0	5.0	.0	11.5	1.5	8.0	3.0	16.5	6.0	12.5	5.0
4	1.5	.0	11.5	.0	8.5	1.5	11.0	3.0	17.0	6.0	16.5	6.0
5	2.5	.0	9.0	.5	10.5	1.5	12.0	3.0	17.5	7.0	15.0	5.0
6	1.5	.0	11.5	1.5	10.5	1.5	7.5	3.5	15.0	7.5	15.0	5.5
7	1.5	.0	5.0	.0	5.0	1.0	12.5	3.0	17.0	7.5	15.5	6.5
8	3.5	.0	.5	.0	3.0	.0	12.0	3.5	12.0	8.5	13.0	5.5
9	3.5	.0	4.0	.0	7.0	.5	12.0	3.5	13.5	7.0	14.0	6.0
10	3.0	.5	4.5	.0	10.5	.0	12.5	3.5	13.5	7.5	15.0	6.5
11	4.0	.0	8.5	.0	12.0	1.0	12.0	3.5	15.5	8.5	13.0	6.0
12	3.0	.0	10.0	.0	12.0	2.0	14.0	4.0	13.0	7.5	14.5	5.5
13	4.0	.0	12.5	.0	11.5	2.0	14.0	4.0	12.0	7.5	13.0	6.0
14	6.0	.0	12.5	1.5	8.0	2.0	14.0	4.5	10.0	8.5	13.0	5.0
15	6.0	.0	13.5	2.0	8.5	2.0	11.5	4.5	11.0	7.5	13.0	2.5
16	7.0	.0	11.0	2.0	9.5	1.5	10.5	5.5	12.0	7.5	13.5	3.0
17	7.0	.0	11.5	1.0	9.5	1.5	12.0	4.5	12.0	6.5	13.5	3.5
18	8.5	.0	11.5	1.0	8.5	1.5	10.0	4.5	10.0	6.5	13.5	4.0
19	7.5	.0	12.0	.5	6.5	1.0	12.0	4.0	11.0	5.0	9.5	3.5
20	8.0	.0	9.0	1.0	11.0	1.0	12.5	4.5	11.5	5.0	9.5	4.5
21	7.5	.0	9.5	1.5	11.5	1.5	11.5	5.0	13.0	5.5	12.5	5.5
22	7.5	.0	11.5	.5	11.5	1.5	14.5	6.0	14.5	5.0	12.5	4.5
23	9.0	.0	11.5	.5	11.0	2.0	13.5	5.0	14.0	5.0	13.0	3.5
24	6.5	.5	8.5	1.5	10.0	3.0	15.0	6.0	14.5	5.5	10.5	4.5
25	5.5	1.0	5.5	1.0	11.0	2.0	15.0	6.5	11.0	6.0	10.5	5.0
26	9.0	.0	9.0	2.0	9.0	2.5	15.0	6.0	10.5	5.5	9.5	4.0
27	10.5	.0	9.5	1.5	11.5	2.5	12.5	6.5	13.5	4.5	12.5	4.0
28	6.0	1.0	9.0	1.5	11.0	2.5	15.0	6.5	15.5	5.5	12.5	3.0
29	8.0	.0	9.0	1.5	11.5	2.5	15.5	6.5	14.5	5.0	12.5	3.0
30	9.5	.0	7.5	2.0	9.5	3.5	15.0	6.0	10.5	6.0	12.5	3.5
31	---	---	9.5	1.0	---	---	15.0	6.5	15.0	5.0	---	---
MONTH	10.5	.0	13.5	.0	12.0	.0	15.5	3.0	17.5	4.5	16.5	2.5
YEAR	17.5	.0										

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 17...	1205	6.9	1	.02	--
NOV 14...	1045	5.1	12	.17	50
DEC 12...	1425	4.2	1	.01	--
JAN 19...	1140	3.5	18	.17	38
FEB 13...	1235	3.2	17	.15	17
APR 18...	1117	6.4	4	.07	--
MAY 16...	1012	20	1	.05	0
JUN 12...	1240	108	6	1.8	33
JUL 11...	1015	121	17	5.6	25
AUG 07...	1215	38	27	2.8	--
SEP 12...	1210	15	5	.20	--

07083700 ARKANSAS RIVER NEAR MALTA, CO

LOCATION.--Lat 39°10'08", long 106°19'23", in NE¼NW¼ sec.22, T.10 S., R.80 W., Lake County, Hydrologic Unit 11020001, on left bank 40 ft (12 m) downstream and 30 ft (9 m) shoreward of left end of bridge on U.S. Highway 24, 3.5 mi (5.6 km) downstream from Lake Fork, 4.4 mi (7.1 km) southeast of Malta, and 5.7 mi (9.2 km) south of Leadville.

DRAINAGE AREA.--228 mi² (590 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1964 to September 1967, October 1974 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 9,300 ft (2,835 m), from topographic map.

REMARKS.--Records good except those for winter period, which are fair. Flow regulated by Turquoise Lake (station 07082400) on Lake Fork 8 mi (13 km) upstream. Transmountain diversions from Colorado River basin to Arkansas River basin enter upstream from this station (see elsewhere in this report). Diversions for irrigation of about 5,600 acres (22.7 km²) above station.

AVERAGE DISCHARGE.--5 years (water years 1975-79), 239 ft³/s (6.768 m³/s), 173,200 acre-ft/yr (214 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,780 ft³/s (50.4 m³/s) June 14, 1978, gage height, 4.85 ft (1.478 m); minimum daily, 40 ft³/s (1.13 m³/s) Oct. 11, 12, 16-20, 1974, Dec. 7-12, Dec. 25, 1976, to Jan. 15, 1977, Jan. 25 to Feb. 7, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,570 ft³/s (44.5 m³/s) at 1000 June 15, gage height, 4.31 ft (1.314 m); minimum daily, 49 ft³/s (1.39 m³/s) Mar. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	87	94	76	91	85	116	152	467	682	1090	213	118
2	90	91	75	95	80	115	148	473	581	1040	202	113
3	84	90	75	103	80	114	140	460	675	1050	218	109
4	85	88	102	98	80	115	149	470	811	1040	313	102
5	88	89	103	94	80	91	161	482	975	1030	305	97
6	87	85	100	104	80	50	186	490	1200	991	366	95
7	85	87	100	109	80	51	217	486	1400	969	420	94
8	82	87	95	123	85	51	226	482	1300	933	412	97
9	82	86	95	141	90	50	227	460	807	885	408	96
10	86	86	95	150	90	49	229	424	672	851	398	94
11	85	89	90	161	95	50	217	410	793	832	392	93
12	84	95	90	115	95	53	232	414	948	796	386	89
13	81	95	89	95	95	65	280	428	1130	758	418	100
14	78	93	105	102	100	95	320	434	1400	764	549	120
15	77	91	105	100	103	93	336	441	1460	734	570	122
16	114	86	105	100	115	113	336	482	1470	706	519	121
17	160	90	105	95	127	133	336	529	1410	588	511	121
18	160	111	105	90	125	132	365	605	1290	442	528	116
19	159	159	105	90	124	131	370	689	1150	406	532	106
20	152	151	105	90	124	147	363	750	967	401	528	119
21	157	150	100	90	123	154	361	767	898	424	531	144
22	165	145	100	90	120	144	360	748	983	437	526	129
23	165	133	95	90	120	144	268	814	1090	396	537	116
24	167	136	95	90	118	142	318	932	1170	353	536	108
25	166	139	94	90	122	140	452	1000	1030	332	535	108
26	163	138	92	90	119	142	447	1070	1160	311	528	113
27	164	134	103	90	120	148	456	1150	1050	311	517	123
28	163	132	99	90	118	152	456	1210	1080	298	495	128
29	161	116	96	90	---	153	451	1160	1060	275	336	129
30	161	80	95	90	---	153	457	1100	1060	256	137	125
31	142	---	90	90	---	152	---	880	---	234	125	---
TOTAL	3780	3246	2979	3136	2893	3438	9016	20707	31702	19933	12991	3345
MEAN	122	108	96.1	101	103	111	301	668	1057	643	419	112
MAX	167	159	105	161	127	154	457	1210	1470	1090	570	144
MIN	77	80	75	90	80	49	140	410	581	234	125	89
AC-FT	7500	6440	5910	6220	5740	6820	17880	41070	62880	39540	25770	6630

CAL YR 1978 TOTAL 92794 MEAN 254 MAX 1600 MIN 42 AC-FT 184100
WTR YR 1979 TOTAL 117166 MEAN 321 MAX 1470 MIN 49 AC-FT 232400

07083700 ARKANSAS RIVER NEAR MALTA, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1977 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT									
17...	1430	162	130	8.2	9.5	8.3	52	24	14
NOV									
15...	0835	80	220	7.9	.0	10.4	94	39	23
DEC									
13...	1405	100	180	8.1	.0	--	74	30	18
JAN									
10...	1430	145	129	7.9	.0	10.0	51	21	13
16...	1130	152	98	7.7	1.0	14.5	46	21	12
FEB									
14...	1200	99	147	6.7	2.5	5.3	57	23	14
MAR									
14...	1515	103	185	7.3	4.0	9.3	78	38	20
APR									
17...	1518	351	110	7.1	8.0	8.5	41	16	10
MAY									
15...	1415	427	100	6.7	8.5	8.4	40	24	10
JUN									
13...	0958	1150	103	6.5	7.0	8.4	49	26	12
JUL									
11...	1550	758	72	6.0	13.5	7.6	34	11	8.7
AUG									
09...	1230	450	100	6.3	12.0	8.3	38	16	9.9
SEP									
12...	1600	92	225	7.6	14.0	16.5	89	38	22

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
OCT									
17...	4.1	2.8	.2	.7	34	0	28	26	1.4
NOV									
15...	8.9	5.0	.2	1.1	67	0	55	43	2.7
DEC									
13...	7.0	3.9	.2	1.2	53	0	43	35	1.8
JAN									
10...	4.5	2.9	.2	.6	--	--	30	26	1.4
16...	3.8	2.6	.2	.6	--	--	25	22	1.2
FEB									
14...	5.4	3.4	.2	.7	--	--	34	31	1.8
MAR									
14...	6.7	3.9	.2	1.1	--	--	40	40	2.0
APR									
17...	3.8	2.1	.1	.9	--	--	25	18	1.1
MAY									
15...	3.6	2.4	.2	.9	--	--	16	22	1.4
JUN									
13...	4.5	1.9	.1	.7	--	--	23	20	1.0
JUL									
11...	2.9	1.3	.1	.5	--	--	23	20	.6
AUG									
09...	3.3	1.7	.1	.6	--	--	22	19	1.0
SEP									
12...	8.3	3.9	.2	1.4	--	--	51	47	1.9

07083700 ARKANSAS RIVER NEAR MALTA, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
OCT									
17...	.6	6.2	73	.10	31.9	.08	.010	80	270
NOV									
15...	.2	10	128	.17	27.6	.21	.010	100	510
DEC									
13...	.2	8.3	104	.14	28.1	.53	.010	90	420
JAN									
10...	.2	6.0	74	.10	29.0	.10	.020	160	260
16...	.2	5.5	64	.09	26.3	.09	.000	100	240
FEB									
14...	.2	7.2	85	.12	22.7	.12	.030	130	330
MAR									
14...	.2	7.2	106	.14	29.5	.10	.020	120	310
APR									
17...	.2	5.3	57	.08	54.0	.12	.010	150	250
MAY									
15...	.2	4.7	56	.08	64.6	.07	.010	170	260
JUN									
13...	.1	5.5	60	.08	186	.12	.010	150	180
JUL									
11...	.2	5.2	54	.07	110	.05	.020	90	150
AUG									
09...	.2	5.6	55	.07	66.8	.08	.040	110	180
SEP									
12...	.2	8.6	125	.17	31.1	.10	.000	80	450

07084500 LAKE CREEK ABOVE TWIN LAKES RESERVOIR, CO

LOCATION.--Lat 39°03'47", long 106°24'26", Lake County, Hydrologic Unit 11020001, on left bank 1.2 mi (1.9 km) upstream from water line of Twin Lakes Reservoir at elevation 9,200 ft (2,804.2 m) and 1.9 mi (3.1 km) southwest of village of Twin Lakes.

DRAINAGE AREA.--75 mi² (194 km²).

PERIOD OF RECORD.--April 1946 to September 1962, October 1963 to current year. Monthly discharge only for some periods, published in WSP 1241, 1311, and 1731.

REVISED RECORDS.--WSP 1117: Drainage area. WSP 1711: 1951(M), 1952.

GAGE.--Water-stage recorder. Altitude of gage is 9,310 ft (2,838 m), from topographic map. Prior to May 20, 1950, at site 190 ft (58 m) downstream at different datum. May 20, 1950, to Apr. 7, 1953, at site 10 ft (3 m) upstream at present datum.

REMARKS.--Records fair except those for winter period, which are poor. No diversion above station. Records include inflow from Roaring Fork River in Colorado River basin through Twin Lakes tunnel (see elsewhere in this report). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--32 years (water years 1947-62, 1964-79), 169 ft³/s (4.786 m³/s), 122,400 acre-ft/yr (151 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,270 ft³/s (92.6 m³/s) June 15, 1978, gage height, 5.08 ft (1.548 m), from rating curve extended above 1,400 ft³/s (40 m³/s); minimum not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,300 ft³/s (65.1 m³/s) at 2130 June 15, gage height, 4.97 ft (1.515 m); minimum daily, 9.5 ft³/s (0.27 m³/s) Jan. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	23	17	12	12	12	12	41	428	724	242	78
2	25	22	17	9.5	12	12	10	45	438	622	231	76
3	27	23	14	11	12	11	11	40	522	543	201	86
4	20	20	14	13	12	10	12	40	785	485	159	93
5	20	22	16	13	11	10	13	40	1130	473	156	88
6	19	20	14	13	11	11	13	40	1330	467	154	81
7	40	19	12	12	12	11	15	41	1650	450	156	67
8	44	19	11	11	13	11	15	43	1210	455	161	52
9	32	18	12	11	12	10	14	43	543	433	156	51
10	19	16	12	12	13	11	15	40	428	416	151	51
11	18	18	13	12	14	11	14	35	450	416	141	50
12	18	19	14	13	14	12	13	33	564	428	132	49
13	16	17	15	12	14	13	13	33	1050	428	130	47
14	16	15	14	11	14	12	15	35	1550	600	146	46
15	16	15	14	12	13	12	18	47	1740	608	207	44
16	16	15	13	12	12	12	21	66	1830	585	214	42
17	16	16	13	12	12	12	27	86	1470	515	185	39
18	18	16	15	12	11	12	27	108	1280	515	201	37
19	18	16	16	12	12	10	27	128	1160	455	197	36
20	20	18	15	12	13	11	25	268	840	450	188	37
21	21	19	12	12	12	12	25	305	860	467	182	40
22	24	19	12	13	12	12	31	365	1050	461	148	35
23	22	19	13	12	11	11	37	411	1190	433	132	33
24	24	18	13	11	11	10	40	479	1200	395	121	32
25	27	19	14	12	11	10	38	578	1220	370	114	31
26	20	18	12	12	12	10	37	645	1230	365	110	31
27	23	14	12	11	13	10	42	941	1210	355	105	33
28	23	16	14	10	12	11	42	1270	1230	346	96	32
29	30	18	13	11	---	11	36	1280	1130	314	84	29
30	34	17	13	11	---	11	37	952	732	272	70	28
31	25	---	13	11	---	11	---	515	---	253	74	---
TOTAL	717	544	422	363.5	343	345	695	8993	31450	14099	4744	1474
MEAN	23.1	18.1	13.6	11.7	12.3	11.1	23.2	290	1048	455	153	49.1
MAX	44	23	17	13	14	13	42	1280	1830	724	242	93
MIN	16	14	11	9.5	11	10	10	33	428	253	70	28
AC-FT	1420	1080	837	721	680	684	1380	17840	62380	27970	9410	2920

CAL YR 1978 TOTAL 76216.5 MEAN 209 MAX 2570 MIN 7.0 AC-FT 151200
WTR YR 1979 TOTAL 64189.5 MEAN 176 MAX 1830 MIN 9.5 AC-FT 127300

NOTE.--NO GAGE-HEIGHT RECORD NOV. 13 TO MAY 14.

07086000 ARKANSAS RIVER AT GRANITE, CO

LOCATION.--Lat 39°02'34", long 106°15'55", in SE¼SW¼ sec.31, T.11 S., R.79 W., Chaffee County, Hydrologic Unit 11020001, on right bank at Granite, 100 ft (30 m) east of U.S. Highway 24, 100 ft (30 m) downstream from county bridge, and 200 ft (61 m) upstream from Cache Creek.

DRAINAGE AREA.--427 mi^2 (1,106 km^2).

PERIOD OF RECORD.--April to October 1895, May to December 1897, August to September 1898, March to October 1899, April to May 1902 (gage heights and discharge measurements only in 1895, 1899, and 1901), April 1910 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1117: Drainage area. WSP 1711: 1952, 1956(M).

GAGE.--Water-stage recorder. Datum of gage is 8,914.86 ft (2,717.249 km) National Geodetic Vertical Datum of 1929, supplementary adjustment of 1960. Prior to Apr. 6, 1910, nonrecording gages near present site at different datums. Apr. 6, 1910, to Oct. 25, 1917, water-stage recorder or nonrecording gage at site 832 ft (254 m) upstream at different datum. Oct. 26, 1917, to Oct. 26, 1960, water-stage recorder at site 168 ft (51 m) downstream at present datum.

REMARKS.--Records good except those for winter period, which are fair. Diversions above station for irrigation of about 6,700 acres (27.1 km^2). Turquoise Lake and Twin Lakes Reservoir, on tributaries above station, have a combined capacity of 182,700 acre-ft (225 hm^3). Transmountain diversions from Colorado River basin to Arkansas River basin enter above this station (see elsewhere in this report). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--69 years (water years 1911-79), 370 ft^3/s (10.48 m^3/s), 268,100 acre-ft/yr (331 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,360 ft^3/s (152 m^3/s) June 28, 1957, gage height, 7.20 ft (2.195 m); minimum not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,710 ft^3/s (76.7 m^3/s) at 1000 June 15, gage height, 5.17 ft (1.576 m); minimum daily, 70 ft^3/s (1.98 m^3/s) Mar. 6, 9, 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	226	136	109	130	125	140	173	531	1570	2450	385	247
2	226	129	118	120	115	145	173	552	1430	2370	380	241
3	223	129	115	130	115	140	168	538	1480	2290	420	241
4	223	129	130	140	115	135	170	545	1580	2150	552	232
5	223	131	145	155	110	100	187	545	1710	1970	545	270
6	223	127	140	160	115	70	202	545	1970	1770	573	320
7	223	123	125	155	120	75	247	566	2430	1700	628	315
8	220	125	115	150	125	75	254	612	2370	1600	628	310
9	220	123	115	155	130	70	254	636	1000	1520	636	310
10	220	123	120	160	130	70	250	604	822	1460	628	310
11	217	125	120	165	135	75	241	580	1230	1440	620	310
12	217	134	125	170	135	80	250	588	1860	1420	604	305
13	214	131	125	165	140	110	286	573	2060	1390	628	286
14	211	130	130	155	140	130	335	552	2450	1380	786	286
15	211	135	140	155	135	140	355	566	2060	1340	849	290
16	202	135	130	155	135	155	370	596	1700	1330	804	290
17	196	130	125	150	130	170	390	644	1670	1250	795	278
18	193	150	125	150	130	170	420	732	2100	1110	804	274
19	193	170	130	150	135	165	420	867	2370	1070	804	220
20	187	165	125	150	140	176	408	1010	2060	1060	795	190
21	190	165	120	150	140	187	408	1000	2000	1080	966	223
22	199	160	120	150	140	168	420	1030	2210	1100	1240	199
23	196	155	125	140	135	165	360	1100	2420	1060	1230	232
24	202	155	125	130	130	165	364	1200	2460	1010	1220	254
25	208	150	125	135	125	162	524	1340	2040	993	1000	254
26	196	150	130	135	130	168	510	1390	2380	876	687	258
27	196	150	135	130	135	173	531	1580	2380	786	669	270
28	193	150	140	125	140	179	531	1800	2430	768	652	274
29	190	130	140	130	---	176	517	1910	2460	741	524	274
30	193	111	140	130	---	176	524	2120	2450	652	305	270
31	199	---	135	130	---	176	---	1830	---	620	274	---
TOTAL	6430	4156	3942	4505	3630	4286	10242	28682	59152	41756	21631	8033
MEAN	207	139	127	145	130	138	341	925	1972	1347	698	268
MAX	226	170	145	170	140	187	531	2120	2460	2450	1240	320
MIN	187	111	109	120	110	70	168	531	822	620	274	190
AC-FT	12750	8240	7820	8940	7200	8500	20320	56890	117300	82820	42910	15930

CAL YR 1978 TOTAL 172877 MEAN 474 MAX 2830 MIN 65 AC-FT 342900
WTR YR 1979 TOTAL 196445 MEAN 538 MAX 2460 MIN 70 AC-FT 389600

TRANSMOUNTAIN DIVERSIONS FROM ARKANSAS RIVER BASIN TO SOUTH PLATTE RIVER BASIN IN COLORADO

07086300 Aurora-Homestake pipeline diverts water from Arkansas River in sec.8, T.12 S., R.79 W., to Elevenmile Canyon Reservoir (South Platte River) in sec.29, T.13 S., R.72 W., in South Platte River basin. Diversion began Aug. 24, 1967. Pipeline is equipped with a discharge recorder and Venturi meter. Records furnished by Colorado Division of Water Resources. Diversions for water year October 1978 to September 1979 are given below.

DIVERSIONS, IN ACRE-FEET, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Water year
2,630	0	1,290	1,900	774	626	1,560	0	0	0	1,500	2,140	12,410

07086500 CLEAR CREEK ABOVE CLEAR CREEK RESERVOIR, CO

LOCATION.--Lat 39°01'05", long 106°16'38", in SE¼ sec.12, T.12 S., R.80 W., Chaffee County, Hydrologic Unit 11020001, on right bank 0.5 mi (0.8 km) upstream from water line of Clear Creek Reservoir at elevation 8,875 ft (2,705.1 m), 1.5 mi (2.4 km) downstream from unnamed tributary, and 1.9 mi (3.1 km) southwest of Granite.

DRAINAGE AREA.--67.1 mi² (173.8 km²).

PERIOD OF RECORD.--May 1946 to current year. Monthly discharge only for some periods, published in WSP 1241 and 1311.

REVISED RECORDS.--WSP 2121: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 8,885 ft (2,708 m), from topographic map. May 7, 1946, to Apr. 20, 1954, water-stage recorder at site 133 ft (41 m) upstream at different datum. Apr. 21, 1954, to May 28, 1958, water-stage recorder 333 ft (101 m) upstream at different datum. Datum raised 2.19 ft (0.668 m) Apr. 21, 1954.

REMARKS.--Records good except those for winter period, which are poor. Diversions for irrigation of about 250 acres (1.01 km²) above station.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--33 years, 67.0 ft³/s (1.897 m³/s), 48,540 acre-ft/yr (59.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,300 ft³/s (36.8 m³/s) June 29, 1957; maximum gage height recorded, 4.34 ft (1.323 m) June 16, 1952, site and datum then in use; minimum discharge, not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 701 ft³/s (19.9 m³/s) at 0030 June 15, gage height, 2.80 ft (0.853 m), only peak above base of 400 ft³/s (11 m³/s); minimum daily, 8.0 ft³/s (0.227 m³/s) Jan. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	14	15	9.0	10	9.5	9.0	23	297	458	102	48
2	16	14	14	8.0	10	9.5	9.0	25	288	418	97	46
3	16	14	13	9.5	10	9.5	9.0	24	333	376	90	45
4	16	14	13	11	10	9.0	9.0	25	401	345	88	40
5	16	14	15	11	9.0	9.0	9.5	25	486	327	78	39
6	16	13	14	11	9.5	9.5	10	25	566	312	76	38
7	16	13	11	10	11	9.5	11	27	566	297	76	38
8	16	13	9.5	9.0	11	9.5	12	30	426	294	75	38
9	16	13	10	9.5	11	9.0	10	31	336	276	75	36
10	16	13	10	10	11	9.0	11	29	300	265	76	35
11	16	13	11	10	12	9.0	10	26	300	256	69	35
12	16	15	12	11	12	9.5	9.5	26	336	250	68	35
13	16	13	13	10	12	10	9.5	26	429	245	66	32
14	16	13	12	9.5	12	9.5	11	31	522	234	74	32
15	15	12	12	11	12	10	12	41	566	231	109	32
16	15	12	12	11	11	10	13	56	570	220	108	30
17	15	12	13	10	11	10	15	77	522	195	90	28
18	15	12	14	10	10	10	15	104	462	180	83	28
19	14	13	15	10	11	9.5	15	131	376	162	81	27
20	14	13	15	10	11	10	14	165	312	153	83	29
21	14	14	14	10	10	11	14	195	324	151	83	31
22	17	15	14	10	10	11	16	212	387	166	76	29
23	16	15	14	9.5	9.0	10	18	253	422	155	69	28
24	17	15	13	9.0	9.0	9.5	19	294	454	144	66	27
25	18	15	12	10	9.0	9.5	18	306	478	142	62	26
26	15	14	10	10	9.5	9.5	17	352	458	133	59	26
27	15	13	11	9.5	10	9.5	20	436	454	129	58	27
28	15	13	12	8.5	9.5	10	20	490	450	129	54	26
29	14	13	11	9.5	---	10	19	443	432	121	51	26
30	14	14	11	9.5	---	10	21	415	432	113	51	26
31	14	---	11	9.5	---	9.5	---	339	---	104	51	---
TOTAL	481	404	386.5	305.5	292.5	300.0	405.5	4682	12685	6981	2344	983
MEAN	15.5	13.5	12.5	9.85	10.4	9.68	13.5	151	423	225	75.6	32.8
MAX	18	15	15	11	12	11	21	490	570	458	109	48
MIN	14	12	9.5	8.0	9.0	9.0	9.0	23	288	104	51	26
AC-FT	954	801	767	606	580	595	804	9290	25160	13850	4650	1950

CAL YR 1978 TOTAL 19572.5 MEAN 53.6 MAX 449 MIN 6.0 AC-FT 38820
WTR YR 1979 TOTAL 30250.0 MEAN 82.9 MAX 570 MIN 8.0 AC-FT 60000

NOTE.--NO GAGE-HEIGHT RECORD NOV. 14 TO MAY 8.

07087200 ARKANSAS RIVER AT BUENA VISTA, CO

LOCATION.--Lat 38°50'56", long 106°07'27", in NW¼NW¼ sec.9, T.14 S., R.78 W., Chaffee County, Hydrologic Unit 11020001, on right bank at northeast corner of Buena Vista city limits and 1.1 mi (1.8 km) upstream from Cottonwood Creek.

DRAINAGE AREA.--611 mi^2 (1,582 km^2).

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 7,920 ft (2,414 m), from topographic map.

REMARKS.--Records good except those for winter period, which are fair. Natural flow of stream affected by transmountain diversions (see elsewhere in this report), storage reservoirs having a combined capacity of 193,900 acre-ft (239 hm^3), diversions above station for irrigation of 7,400 acres (29.9 km^2), and return flow from irrigated areas. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--15 years, 500 ft^3/s (14.16 m^3/s), 362,200 acre-ft/yr (447 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,640 ft^3/s (103 m^3/s) July 13, 1965, gage height, 6.32 ft (1.926 m); minimum daily, 57 ft^3/s (1.61 m^3/s) Jan. 27, 28, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,150 ft^3/s (89.2 m^3/s) at 1600 June 26, gage height, 5.88 ft (1.792 m); minimum daily, 60 ft^3/s (1.70 m^3/s) Dec. 27, Jan 29 to Feb. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	172	172	124	90	60	74	155	478	2020	3020	682	506
2	170	153	124	90	65	70	131	491	1860	2960	575	257
3	167	146	114	90	70	67	132	482	1880	2670	592	245
4	163	145	113	90	75	61	128	481	2020	2570	704	227
5	165	143	121	90	79	127	137	502	2150	2400	726	209
6	161	144	104	95	76	118	127	500	2400	2300	721	260
7	160	137	100	102	74	87	181	511	2750	2200	758	260
8	157	143	95	102	71	88	263	540	2810	2120	690	254
9	157	141	95	101	69	79	249	583	1310	2020	644	251
10	157	146	95	111	68	74	226	559	1010	2020	646	248
11	156	145	95	118	71	75	219	543	1340	1990	637	250
12	154	153	99	116	70	85	205	532	2160	1960	615	243
13	151	150	111	104	74	74	238	534	2240	1860	627	234
14	148	149	99	96	75	87	283	525	2640	1690	751	224
15	150	152	78	97	78	121	300	540	2630	1630	850	231
16	151	140	78	102	74	127	310	559	2270	1600	812	230
17	144	142	101	89	69	206	326	600	2350	1550	786	225
18	141	133	114	84	71	200	347	678	2570	1380	785	214
19	143	135	99	84	84	189	354	804	2900	1340	766	256
20	153	145	83	87	84	181	335	974	2650	1300	768	408
21	138	127	88	109	80	193	335	999	2440	1290	1060	437
22	149	125	91	110	76	168	342	1010	2320	1310	1360	407
23	148	119	87	95	66	158	335	1370	2540	1290	1380	394
24	150	111	89	123	67	140	257	1480	2680	1260	1370	411
25	158	124	85	92	63	140	455	1600	2610	1250	1130	322
26	143	123	82	82	67	140	434	1700	2700	1170	657	211
27	144	116	60	74	72	139	442	1830	2970	1030	706	215
28	140	135	85	65	77	186	457	2110	3010	1020	897	212
29	135	173	107	60	---	136	435	2240	3050	970	830	212
30	137	142	103	60	---	132	437	2440	3010	924	616	210
31	143	---	95	60	---	179	---	2260	---	880	591	---
TOTAL	4705	4209	3014	2868	2025	3901	8575	30455	71290	52974	24732	8263
MEAN	152	140	97.2	92.5	72.3	126	286	982	2376	1709	798	275
MAX	172	173	124	123	84	206	457	2440	3050	3020	1380	506
MIN	135	111	60	60	60	61	127	478	1010	880	575	209
AC-FT	9330	8350	5980	5690	4020	7740	17010	60410	141400	105100	49060	16390

CAL YR 1978 TOTAL 182999 MEAN 501 MAX 3100 MIN 60 AC-FT 363000
WTR YR 1979 TOTAL 217011 MEAN 595 MAX 3050 MIN 60 AC-FT 430400

07089000 COTTONWOOD CREEK BELOW HOT SPRINGS, NEAR BUENA VISTA, CO

LOCATION.--Lat 38°48'46", long 106°13'18", in SE¼SE¼ sec.21, T.14 S., R.79 W., Chaffee County, Hydrologic Unit 11020001, on left bank 0.2 mi (0.3 km) downstream from Cottonwood Hot Springs, 0.9 mi (1.4 km) downstream from confluence of Middle Cottonwood and South Cottonwood Creeks, 2.9 mi (4.7 km) upstream from North Cottonwood Creek, and 5.5 mi (8.8 km) southwest of Buena Vista.

DRAINAGE AREA.--65.0 mi² (168 km²).

PERIOD OF RECORD.--October 1910 to September 1923, August 1949 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1177: 1915, drainage area.

GAGE.--Water-stage recorder. Datum of gage is 8,532 ft (2,600.6 m), from river-profile survey. Prior to Oct. 1, 1923, nonrecording gage near present site at different datum.

REMARKS.--Records good except those June 8 to July 10, which are fair. Several small diversions above station for irrigation. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--43 years (water years 1911-23, 1950-79), 55.9 ft³/s (1.583 m³/s), 40,500 acre-ft/yr (49.9 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,180 ft³/s (33.4 m³/s) July 1, 1957, gage height, 4.52 ft (1.378 m), from floodmarks, from rating curve extended above 690 ft³/s (20 m³/s); minimum observed, 10 ft³/s (0.28 m³/s) Mar. 20-23, 25, Apr. 9, 19, 1914.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 300 ft³/s (8.5 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
June 13	0930	390	11.0	2.88	0.878	July 10	1330	375	10.6	2.85	0.869
June 21	0030	*418	11.8	2.95	0.899						

Minimum daily discharge, 15 ft³/s (0.42 m³/s) Mar. 10, 23-25, 30, 31, Apr. 1-5, 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	23	20	17	17	16	15	25	42	219	61	39
2	24	23	20	18	17	16	15	26	37	231	61	38
3	24	23	19	18	17	16	15	24	44	210	61	37
4	24	23	20	18	17	16	15	23	51	190	60	36
5	24	23	20	18	17	16	15	23	56	178	58	35
6	24	23	19	18	17	16	16	23	70	169	56	34
7	24	22	19	18	17	16	16	28	96	163	56	34
8	24	24	19	18	17	16	17	25	81	150	55	33
9	24	24	19	18	17	16	17	21	86	139	57	33
10	24	24	19	18	17	15	16	18	99	139	63	33
11	24	25	18	18	17	16	16	18	146	128	60	32
12	24	25	19	18	17	16	15	18	186	118	56	32
13	24	23	19	18	17	16	15	18	272	114	55	32
14	24	23	18	18	17	16	16	19	175	111	62	32
15	24	23	18	18	17	16	17	25	176	109	80	32
16	24	23	18	18	17	16	18	32	216	107	64	32
17	24	23	18	18	17	16	19	40	248	105	63	32
18	29	23	19	18	17	16	23	50	265	103	61	31
19	25	22	19	18	17	16	22	75	287	100	57	31
20	23	22	18	18	17	16	21	96	271	94	56	31
21	24	22	18	17	16	16	20	86	322	92	57	33
22	26	22	18	17	16	16	20	116	355	91	51	33
23	25	21	18	17	16	15	19	127	296	86	48	38
24	26	21	18	17	16	15	21	153	264	84	47	34
25	27	22	18	18	16	15	20	158	247	82	45	32
26	24	21	18	18	16	16	20	76	229	79	44	31
27	24	20	18	17	16	16	20	75	228	77	44	31
28	24	20	18	17	16	16	22	93	226	75	43	31
29	24	20	18	17	---	16	23	91	214	73	41	31
30	24	20	18	17	---	15	23	83	211	71	41	31
31	24	---	18	17	---	15	---	54	---	69	41	---
TOTAL	757	673	576	548	468	490	547	1739	5496	3756	1704	994
MEAN	24.4	22.4	18.6	17.7	16.7	15.8	18.2	56.1	183	121	55.0	33.1
MAX	29	25	20	18	17	16	23	158	355	231	80	39
MIN	23	20	18	17	16	15	15	18	37	69	41	31
AC-FT	1500	1330	1140	1090	928	972	1080	3450	10900	7450	3380	1970

CAL YR 1978 TOTAL 17325 MEAN 47.5 MAX 385 MIN 14 AC-FT 34360
WTR YR 1979 TOTAL 17748 MEAN 48.6 MAX 355 MIN 15 AC-FT 35200

07091200 ARKANSAS RIVER NEAR NATHROP, CO

LOCATION.--Lat 38°39'08", long 106°03'02", in SE¼SW¼ sec.23, T.51 N., R.8 E., Chaffee County, Hydrologic Unit 11020001, on right bank 300 ft (90 m) upstream from end of Chaffee County Road 60 in Browns Canyon, 3.7 mi (5.9 km) downstream from Browns Creek, 6.7 mi (10.8 km) south of Nathrop, and 9 mi (14 km) north of Salida.

DRAINAGE AREA.--1,060 mi^2 (2,745 km^2).

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 7,350 ft (2,240 m), from topographic map.

REMARKS.--Records good except those for winter period, which are fair. Natural flow of stream affected by transmountain diversions (see elsewhere in this report), storage reservoirs, power development, diversions for irrigation of about 15,000 acres (61 km^2), and return flow from irrigated areas. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--15 years, 633 ft^3/s (17.93 m^3/s), 458,600 acre-ft/yr (565 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,480 ft^3/s (127 m^3/s) July 13, 1965, gage height, 7.79 ft (2.374 m); maximum gage height, 9.94 ft (2.725 m) Aug. 31, 1972 (backwater from unnamed tributary); minimum daily discharge, 95 ft^3/s (2.69 m^3/s) Feb. 25-27, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,590 ft^3/s (102 m^3/s) at 1000 June 8 and 1200 June 15, gage height, 7.70 ft (2.347 m); minimum daily, 140 ft^3/s (3.96 m^3/s) Jan. 27 to Feb. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	276	237	193	160	140	172	266	506	2260	3310	818	697
2	269	230	203	160	140	172	229	536	2100	3290	687	436
3	267	221	195	170	150	168	225	528	2130	3080	680	399
4	260	217	203	190	150	164	213	524	2300	2820	757	386
5	263	218	212	200	160	198	231	533	2480	2700	782	347
6	261	218	204	200	160	224	223	526	2800	2500	775	409
7	263	208	199	200	160	194	256	537	3400	2410	821	413
8	262	213	180	200	160	193	330	554	3500	2320	766	398
9	261	208	170	200	160	176	346	618	1970	2240	751	398
10	261	213	170	200	160	161	301	595	1400	2150	750	398
11	259	213	180	200	160	165	270	584	1520	2110	752	386
12	259	223	190	190	160	179	257	573	2370	2070	716	385
13	259	215	200	180	170	175	282	574	2610	2000	727	377
14	255	209	220	170	180	171	329	549	3160	1840	914	353
15	256	210	230	170	180	217	354	573	3320	1810	1060	355
16	257	201	250	160	174	205	374	590	2790	1800	1030	356
17	246	203	260	150	159	306	378	618	2820	1740	1000	356
18	240	199	260	150	161	313	400	684	2920	1570	982	351
19	241	188	240	150	170	295	411	828	3280	1520	963	350
20	242	204	220	150	176	302	386	1090	2840	1440	923	539
21	234	195	210	150	173	292	383	1140	2690	1450	1220	567
22	249	193	210	160	168	285	386	1110	2490	1470	1580	550
23	239	187	220	160	166	268	386	1590	2780	1430	1550	522
24	239	180	230	160	167	241	303	1710	2870	1370	1520	538
25	246	194	230	160	164	246	446	1860	2940	1380	1420	513
26	234	191	230	150	174	250	465	2000	2860	1290	819	341
27	226	186	230	140	174	242	474	2220	3260	1140	818	338
28	220	195	230	140	175	298	486	2620	3340	1120	1080	344
29	218	227	210	140	---	247	473	2710	3340	1080	1020	341
30	217	214	180	140	---	233	467	2900	3270	1030	791	338
31	220	---	160	140	---	273	---	2560	---	980	737	---
TOTAL	7699	6210	6519	5190	4591	7025	10330	34540	81810	58460	29209	12481
MEAN	248	207	210	167	164	227	344	1114	2727	1886	942	416
MAX	276	237	260	200	180	313	486	2900	3500	3310	1580	697
MIN	217	180	160	140	140	161	213	506	1400	980	680	338
AC-FT	15270	12320	12930	10290	9110	13930	20490	68510	162300	116000	57940	24760

CAL YR 1978 TOTAL 218182 MEAN 598 MAX 3560 MIN 125 AC-FT 432800
WTR YR 1979 TOTAL 264064 MEAN 723 MAX 3500 MIN 140 AC-FT 523800

07091500 ARKANSAS RIVER AT SALIDA, CO

LOCATION.--Lat 38°32'45", long 106°00'36", in NE¼ sec.31, T.50 N., R.9 E., Chaffee County, Hydrologic Unit 11020001, on right bank at Salida, 450 ft (140 m) upstream from bridge on State Highway 291, and 2.7 mi (4.3 km) upstream from South Arkansas River.

DRAINAGE AREA.--1,218 mi^2 (3,155 km^2).

PERIOD OF RECORD.--April to October 1895, May to December 1897, August 1898 to September 1899, April to October 1900, April 1901 to October 1903, October 1909 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1117: Drainage area. WSP 1311: 1899, 1900, 1914(M), 1921(M).

GAGE.--Water-stage recorder. Datum of gage is 7,050.45 ft (2,148.977 m) National Geodetic Vertical Datum of 1929. See WSP 1711 or 1731 for history of changes prior to Dec. 6, 1957.

REMARKS.--Records good. Natural flow of stream affected by transmountain diversions (see elsewhere in this report), storage reservoirs having a combined capacity of 193,900 acre-ft (240 hm^3), diversions for irrigation of about 18,000 acres (73 km^2) above station, and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--73 years (water years 1899, 1902-3, 1910-79), 628 ft^3/s (17.78 m^3/s), 455,000 acre-ft/yr (561 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,220 ft^3/s (261 m^3/s) June 29, 1957, gage height, 7.82 ft (2.384 m), present datum; minimum daily, 100 ft^3/s (2.83 m^3/s) Oct. 4, 6, 7, 1898, Jan. 9, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,700 ft^3/s (105 m^3/s) at 1200 June 8, gage height, 4.13 ft (1.259 m); minimum daily, 140 ft^3/s (3.96 m^3/s) Jan. 2, 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	210	205	225	168	220	164	266	486	2130	3420	794	631
2	210	200	230	140	220	160	235	530	1900	3420	655	430
3	210	191	225	180	200	155	225	530	1950	3280	639	347
4	230	191	215	210	170	160	215	515	2110	3040	706	335
5	235	191	220	210	170	160	225	515	2370	2900	723	311
6	235	196	220	190	180	235	225	508	2720	2650	706	335
7	235	191	210	170	170	210	245	515	3330	2540	749	347
8	235	191	196	170	180	215	317	522	3570	2400	698	341
9	235	191	196	190	170	196	347	591	1880	2300	672	341
10	230	200	186	190	160	178	305	575	1280	2180	689	347
11	230	215	191	210	168	178	272	568	1320	2130	689	347
12	230	235	205	220	168	191	250	552	2230	2090	655	347
13	230	235	210	225	168	191	266	552	2550	2010	655	347
14	230	225	191	215	173	182	305	522	3190	1810	830	341
15	230	230	182	200	168	215	335	545	3430	1760	1000	335
16	230	235	178	205	164	215	353	560	2800	1740	960	323
17	215	230	168	215	147	283	353	591	2840	1680	911	317
18	215	230	186	196	147	311	378	655	2860	1540	875	294
19	215	210	186	205	164	294	391	767	3340	1470	875	294
20	215	230	186	205	164	311	365	980	2930	1410	839	424
21	220	230	173	205	160	288	359	1050	2750	1400	1080	465
22	235	225	168	210	160	288	359	1030	2470	1420	1520	451
23	230	215	178	170	160	266	365	1410	2830	1370	1530	417
24	225	210	173	160	155	250	300	1570	2960	1320	1500	420
25	230	225	168	210	155	250	386	1740	3100	1310	1450	430
26	230	225	168	210	151	256	444	1950	2860	1260	758	330
27	205	210	155	170	164	245	444	2150	3360	1080	732	320
28	186	220	155	145	160	283	458	2550	3400	1070	950	320
29	182	250	168	200	---	261	451	2630	3420	1030	920	300
30	186	245	178	170	---	235	451	2870	3390	990	740	300
31	186	---	186	140	---	256	---	2520	---	930	680	---
TOTAL	6820	6477	5876	5904	4736	7082	9890	33049	81270	58950	27180	10887
MEAN	220	216	190	190	169	228	330	1066	2709	1902	877	363
MAX	235	250	230	225	220	311	458	2870	3570	3420	1530	631
MIN	182	191	155	140	147	155	215	486	1280	930	639	294
AC-FT	13530	12850	11660	11710	9390	14090	19620	65550	161200	116900	53910	21590

CAL YR 1978 TOTAL 204831 MEAN 561 MAX 3690 MIN 115 AC-FT 406300
WTR YR 1979 TOTAL 258121 MEAN 707 MAX 3570 MIN 140 AC-FT 512000

07093700 ARKANSAS RIVER NEAR WELLSVILLE, CO

LOCATION.--Lat 38°30'10", long 105°56'21", in SW¼NE¼ sec.14, T.49 N., R.9 E., Chaffee County, Hydrologic Unit 11020001, on right bank 50 ft (15 m) upstream from Chaffee-Fremont County line, 2.0 mi (3.2 km) northwest of Wellsville, 2.8 mi (4.5 km) downstream from South Arkansas River, and 3.5 mi (5.6 km) southeast of Salida.

DRAINAGE AREA.--1,485 mi² (3,846 km²).

PERIOD OF RECORD.--April 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6,883.4 ft (2,098.06 m), National Geodetic Vertical Datum of 1929 (river-profile survey).

REMARKS.--Records good except those for winter period, which are fair. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, diversions for irrigation of about 26,000 acres (110 km²), and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division Water Resources and reviewed by Geological Survey).

AVERAGE DISCHARGE.--18 years, 686 ft³/s (19.43 m³/s), 497,000 acre-ft/yr (613 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,390 ft³/s (124 m³/s) July 13, 1965, gage height, 7.36 ft (2.243 m); minimum daily, 110 ft³/s (3.12 m³/s) Jan. 12, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,070 ft³/s (115 m³/s) at 1300 June 8, gage height, 6.96 ft (2.121 m); minimum daily, 180 ft³/s (5.10 m³/s) Jan. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	247	272	351	202	283	236	347	540	2500	3500	955	710
2	247	283	359	180	283	233	295	565	2240	3510	734	516
3	250	268	311	220	261	226	275	585	2260	3350	704	431
4	275	268	307	250	230	219	264	545	2430	3100	770	408
5	280	264	339	250	230	216	272	545	2690	2950	800	379
6	285	268	331	240	254	319	279	530	3000	2740	794	408
7	290	264	320	220	236	247	303	530	3680	2630	830	431
8	290	254	300	220	247	254	387	545	3930	2520	782	418
9	290	261	300	240	236	244	431	610	2520	2410	752	418
10	290	261	311	240	233	208	371	605	1630	2290	770	418
11	290	287	343	260	244	212	323	590	1520	2270	776	413
12	295	315	367	270	247	230	291	565	2560	2220	740	413
13	295	323	343	279	261	236	299	560	2810	2160	734	408
14	299	299	311	254	272	230	351	540	3420	1920	908	395
15	299	307	299	272	258	261	400	560	3690	1880	1110	395
16	299	323	287	279	247	264	436	590	3080	1850	1070	387
17	287	323	287	268	230	343	449	630	3100	1790	990	383
18	272	339	323	264	222	391	467	686	3050	1580	955	371
19	275	319	331	264	233	367	472	818	3460	1490	948	355
20	283	339	307	244	244	395	444	1050	3080	1390	914	503
21	295	339	287	244	240	363	431	1150	2890	1380	1080	580
22	359	335	287	264	240	375	436	1140	2630	1420	1400	570
23	347	327	299	226	236	339	449	1530	2940	1380	1460	540
24	327	319	279	219	230	315	371	1760	3030	1340	1440	545
25	331	335	291	272	226	311	436	1940	3210	1340	1420	565
26	331	335	272	272	236	319	508	2260	2950	1300	884	371
27	299	327	254	230	244	311	498	2430	3430	1140	818	355
28	264	323	264	194	240	351	516	2940	3480	1140	976	359
29	258	367	268	261	---	339	512	3140	3500	1100	990	351
30	258	375	275	226	---	295	512	3340	3480	1060	830	351
31	250	---	240	198	---	315	---	2940	---	1000	758	---
TOTAL	8957	9219	9443	7522	6843	8964	11825	36759	88190	61150	29092	13147
MEAN	289	307	305	243	244	289	394	1186	2940	1973	938	438
MAX	359	375	367	279	283	395	516	3340	3930	3510	1460	710
MIN	247	254	240	180	222	208	264	530	1520	1000	704	351
AC-FT	17770	18290	18730	14920	13570	17780	23450	72910	174900	121300	57700	26080

CAL YR 1978 TOTAL 236160 MEAN 647 MAX 3860 MIN 150 AC-FT 468400
WTR YR 1979 TOTAL 291111 MEAN 798 MAX 3930 MIN 180 AC-FT 577400

07094500 ARKANSAS RIVER AT PARKDALE, CO

LOCATION.--Lat 38°29'14", long 105°22'23", in NE¼NW¼ sec.18, T.18 S., R.71 W., Fremont County, Hydrologic Unit 11020001, on left bank at Parkdale, 100 ft (30 m) upstream from Bumback Gulch, 300 ft (90 m) upstream from bridge on U.S. Highway 50, and 0.9 mi (1.4 km) upstream from Copper Gulch.

DRAINAGE AREA.--2,548 mi² (6,599 km²).

PERIOD OF RECORD.--October 1945 to September 1955, October 1964 to current year. Monthly discharge only for October 1945 to May 1946, published in WSP 1311.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 5,720 ft (1,473 m), from topographic map. Prior to Oct. 1, 1964, at site 600 ft (180 m) downstream at different datum.

REMARKS.--Records good except those for winter period, which are poor. Natural flow of stream affected by transmountain diversions, storage reservoirs, diversions for irrigation of about 35,000 acres (140 km²) above station, and return flow from irrigated areas. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--25 years (water years 1946-79), 765 ft³/s (21.66 m³/s), 554,200 acre-ft/yr (683 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,880 ft³/s (167 m³/s) June 22, 1947, gage height, 9.02 ft (2.749 m), site and datum then in use, from rating curve extended above 3,000 ft³/s (85 m³/s); minimum daily, 200 ft³/s (5.66 m³/s) Jan. 5-7, 1971.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,000 ft³/s (142 m³/s) June 9, gage height unknown; minimum daily, 250 ft³/s (7.08 m³/s) Feb. 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	279	267	375	321	270	271	375	530	2810	3730	1300	800
2	272	284	372	278	260	271	346	578	2530	3810	874	750
3	272	278	331	256	260	269	324	620	2640	3670	801	550
4	285	272	324	250	260	259	316	585	2890	3430	818	460
5	290	268	384	250	270	255	309	558	3160	3250	908	440
6	290	270	267	250	300	299	329	553	3720	2960	888	430
7	290	273	251	250	330	307	319	544	4230	2820	938	460
8	290	267	307	260	350	299	365	577	4830	2680	922	480
9	290	269	304	275	350	301	452	612	5000	2560	862	480
10	290	267	313	310	350	268	432	654	2320	2430	889	460
11	295	285	347	340	340	257	387	627	1770	2350	880	440
12	295	313	399	385	330	266	349	612	2400	2310	853	430
13	295	329	363	367	320	276	330	602	2990	2240	826	422
14	295	313	340	346	300	274	364	591	3540	2070	1020	433
15	295	312	346	326	290	273	417	583	4110	2050	1350	431
16	295	334	333	313	280	309	446	601	3580	2000	1350	420
17	296	329	327	300	260	311	467	636	3500	1930	1220	410
18	284	343	352	291	250	395	482	718	3290	1830	1170	403
19	280	344	389	284	260	393	497	860	3790	2240	1150	386
20	282	341	356	276	270	403	487	1130	3510	2440	1110	422
21	290	361	316	290	290	394	462	1310	3190	2340	1170	613
22	331	351	318	300	286	399	458	1310	2900	2370	1490	609
23	345	352	324	330	282	366	471	1570	3130	2310	1620	576
24	309	347	322	350	272	357	462	1910	3330	2170	1590	560
25	315	356	321	350	279	339	383	2130	3530	2140	1580	579
26	319	363	320	350	269	350	532	2420	3160	2070	1200	504
27	303	359	317	340	275	360	507	2520	3780	1810	952	389
28	286	339	320	330	271	369	523	3070	3760	1670	943	389
29	269	362	317	320	---	412	524	3370	3810	1600	1050	385
30	263	396	321	300	---	341	527	3620	3760	1540	1020	379
31	264	---	321	280	---	331	---	3560	---	1410	900	---
TOTAL	9054	9544	10297	9468	8124	9974	12642	39561	100960	74230	33644	14490
MEAN	292	318	332	305	290	322	421	1276	3365	2395	1085	483
MAX	345	396	399	385	350	412	532	3620	5000	3810	1620	800
MIN	263	267	251	250	250	255	309	530	1770	1410	801	379
AC-FT	17960	18930	20420	18780	16110	19780	25080	78470	200300	147200	66730	28740

CAL YR 1978 TOTAL 244777 MEAN 671 MAX 4080 MIN 199 AC-FT 485500
WTR YR 1979 TOTAL 331988 MEAN 910 MAX 5000 MIN 250 AC-FT 658500

NOTE.--NO GAGE-HEIGHT RECORD JAN. 21 TO FEB. 21.

07095000 GRAPE CREEK NEAR WESTCLIFFE, CO

LOCATION.--Lat 38°11'10", long 105°28'59", in NW¼NW¼ sec.31, T.21 S., R.72 W., Custer County, Hydrologic Unit 11020001, on left bank 0.5 mi (0.8 km) upstream from water line of De Weese Reservoir at elevation 7,665 ft (2,336.3 m), 0.5 mi (0.8 km) downstream from Swift Creek, and 3.6 mi (5.8 km) northwest of Westcliffe.

DRAINAGE AREA.--320 mi² (829 km²).

PERIOD OF RECORD.--October 1924 to September 1961, October 1962 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1117: Drainage area. WSP 1241: 1950(M). WSP 1311: 1927(M).

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 7,690 ft (2,344 m), from topographic map. Prior to Mar. 17, 1939, at site 30 ft (9 m) upstream at present datum.

REMARKS.--Records good except those for winter period and those for period of no gage-height record, which are poor. Diversions above station for irrigation of about 15,000 acres (60.7 km²). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--54 years (water years 1925-61, 1963-79), 31.8 ft³/s (0.901 m³/s), 23,040 acre-ft/yr (28.4 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,460 ft³/s (211 m³/s) Aug. 2, 1966, gage height, 8.45 ft (2.576 m), from rating curve extended above 320 ft³/s (9.1 m³/s), on basis of slope-area measurement of peak flow; minimum daily, 0.1 ft³/s (0.003 m³/s) June 19-22, 1936.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 250 ft³/s (7.1 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
May 31	1800	400	11.3	2.44	0.75	June 9	0830	*902	25.5	3.47	1.06

Minimum daily discharge, 3.0 ft³/s (0.085 m³/s) Oct. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.8	8.9	14	8.0	10	24	68	12	273	198	38	14
2	5.8	8.9	13	8.0	9.5	27	56	12	211	198	32	13
3	5.2	11	10	10	9.5	24	54	16	187	175	29	13
4	5.2	12	11	12	9.5	22	47	18	128	163	26	12
5	4.7	12	12	12	8.5	24	77	14	130	149	25	12
6	4.2	12	11	12	10	30	100	12	146	156	22	11
7	3.6	12	9.0	11	11	30	83	9.8	180	180	17	8.9
8	4.2	12	7.0	10	12	32	63	11	337	149	16	8.0
9	4.7	12	8.0	10	12	30	47	17	775	128	19	7.4
10	3.6	12	10	12	12	27	41	18	338	105	28	7.4
11	3.0	11	11	14	13	30	40	21	198	99	27	7.4
12	3.6	13	13	15	15	35	34	16	175	82	44	7.4
13	3.6	14	12	13	17	40	27	11	190	77	28	7.4
14	4.7	12	11	12	18	35	27	8.0	240	75	58	16
15	4.2	12	11	14	16	40	26	6.9	281	77	84	22
16	5.2	12	10	14	15	42	22	5.8	299	82	68	16
17	6.9	12	12	16	15	42	21	5.2	296	96	63	13
18	6.9	11	15	16	14	42	20	7.4	254	101	60	12
19	6.9	11	15	14	18	40	19	7.4	222	92	61	12
20	6.9	12	12	13	22	39	20	41	163	74	49	12
21	6.9	13	12	13	23	38	17	63	117	56	41	24
22	8.9	14	13	13	23	38	17	43	110	52	36	16
23	9.8	14	14	9.0	20	38	15	35	134	51	31	15
24	11	13	13	10	20	40	13	47	156	44	28	13
25	11	15	13	12	20	45	12	183	219	39	26	12
26	11	13	12	11	23	50	8.0	193	198	38	24	12
27	12	12	13	8.0	23	101	7.4	154	193	37	22	11
28	11	12	14	8.0	19	163	8.0	146	190	34	20	9.8
29	9.8	12	14	8.5	---	123	9.8	166	188	32	17	9.8
30	8.9	12	12	7.5	---	111	12	176	196	34	16	9.8
31	8.9	---	9.0	8.5	---	96	---	349	---	32	15	---
TOTAL	208.1	362.8	366.0	354.5	438.0	1498	1011.2	1824.5	6724	2905	1070	364.3
MEAN	6.71	12.1	11.8	11.4	15.6	48.3	33.7	58.9	224	93.7	34.5	12.1
MAX	12	15	15	16	23	163	100	349	775	198	84	24
MIN	3.0	8.9	7.0	7.5	8.5	22	7.4	5.2	110	32	15	7.4
AC-FT	413	720	726	703	869	2970	2010	3620	13340	5760	2120	723

CAL YR 1978 TOTAL 3854.2 MEAN 10.6 MAX 41 MIN 2.2 AC-FT 7640
WTR YR 1979 TOTAL 17126.4 MEAN 46.9 MAX 775 MIN 3.0 AC-FT 33970

NOTE.--NO GAGE-HEIGHT RECORD DEC. 31 TO MAR. 26.

07096000 ARKANSAS RIVER AT CANON CITY, CO

LOCATION.--Lat 38°26'02", long 105°15'24", in SE¼SE¼ sec.31, T.18 S., R.70 W., Fremont County, Hydrologic Unit 11020002, on right bank 800 ft (240 m) upstream from Sand Creek, 0.7 mi (1.1 km) downstream from Grape Creek, and 0.7 mi (1.1 km) upstream from First Street Bridge in Canon City.

DRAINAGE AREA.--3,117 mi² (8,073 km²).

PERIOD OF RECORD.--January 1888 to current year. Monthly discharge only for some periods, published in WSP 1311. Published as "near Canyon" 1900-1906.

REVISED RECORDS.--WSP 1117: Drainage area. WSP 1311: 1897-98.

GAGE.--Water-stage recorder. Datum of gage is 5,342.13 ft (1,628.281 m) National Geodetic Vertical Datum of 1929. See WSP 1711 or 1731 for history of changes prior to Oct. 1, 1957. Oct. 1, 1957, to Nov. 15, 1962, water-stage recorder at present site at datum 1.49 ft (0.454 m) higher.

REMARKS.--Records good. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, diversions for irrigation of about 56,000 acres (227 km²), and return flow from irrigated areas.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--91 years, 715 ft³/s (20.25 m³/s), 518,000 acre-ft/yr (639 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,000 ft³/s (538 m³/s) Aug. 2, 1921, gage height, 10.7 ft (3.26 m), site and datum then in use, from floodmark, from rating curve extended above 5,000 ft³/s (140 m³/s); minimum daily, 69 ft³/s (1.95 m³/s) May 13, 1959.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,080 ft³/s (143 m³/s) at 2100 June 8, gage height, 8.97 ft (2.734 m); minimum daily, 150 ft³/s (4.25 m³/s) Jan. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	185	167	296	175	160	255	363	381	3030	3890	932	735
2	175	187	296	150	210	260	323	444	2670	3960	695	663
3	175	187	280	175	210	245	285	540	2540	3810	623	418
4	185	180	250	190	200	230	260	505	2640	3540	631	387
5	200	173	250	220	195	227	240	444	2930	3310	703	345
6	208	176	225	220	200	270	301	418	3310	3060	687	318
7	208	182	195	210	210	312	345	393	4020	2920	703	357
8	211	175	215	190	210	275	393	425	4650	2780	703	340
9	206	175	240	185	225	296	484	477	4230	2610	663	329
10	208	171	265	200	225	280	451	548	2480	2450	695	340
11	206	187	285	200	245	280	375	505	1930	2390	687	334
12	197	208	320	220	245	285	312	470	2540	2320	655	357
13	199	227	345	225	250	296	270	457	3180	2240	631	418
14	203	224	330	235	280	296	290	444	3760	2060	826	418
15	201	237	300	210	300	296	363	418	4430	1990	1210	323
16	199	250	270	220	270	329	405	438	3940	2080	1280	285
17	199	245	250	230	260	345	431	470	3850	1920	1160	265
18	192	250	260	220	250	444	438	519	3670	1830	1120	255
19	188	260	300	215	250	464	438	623	4020	1680	1050	234
20	190	255	290	195	260	477	393	905	3830	1570	995	250
21	194	270	240	170	270	491	340	1080	3360	1510	1020	491
22	224	265	230	190	265	457	318	1070	3060	1510	1230	505
23	240	260	240	190	255	418	318	1280	3160	1470	1520	457
24	211	255	230	170	255	405	307	1680	3350	1380	1500	438
25	211	260	230	165	255	387	221	1960	3590	1360	1470	464
26	214	275	260	210	250	412	388	2360	3330	1330	1120	405
27	206	270	205	200	255	444	363	2550	3790	1200	818	255
28	194	240	225	180	250	498	363	3140	3940	1110	887	255
29	176	265	240	165	---	608	375	3430	3980	1070	1020	260
30	171	312	230	170	---	444	375	3630	3940	1030	923	245
31	170	---	210	160	---	351	---	3680	---	977	784	---
TOTAL	6146	6788	8002	6055	6710	11077	10528	35684	103150	66357	28941	11146
MEAN	198	226	258	195	240	357	351	1151	3438	2141	934	372
MAX	240	312	345	235	300	608	484	3680	4650	3960	1520	735
MIN	170	167	195	150	160	227	221	381	1930	977	623	234
AC-FT	12190	13460	15870	12010	13310	21970	20880	70780	204600	131600	57400	22110

CAL YR 1978 TOTAL 220985 MEAN 605 MAX 4230 MIN 101 AC-FT 438300
WTR YR 1979 TOTAL 300584 MEAN 824 MAX 4650 MIN 150 AC-FT 596200

NOTE.--NO GAGE-HEIGHT RECORD JAN. 5 TO FEB. 23.

07096500 FOURMILE CREEK NEAR CANON CITY, CO

LOCATION.--Lat 38°26'11", long 105°11'27", in NE¼SW¼ sec.35, T.18 S., R.70 W., Fremont County, Hydrologic Unit 11020002, on right bank 1,000 ft (300 m) downstream from railroad bridge, 0.6 mi (1.0 km) upstream from mouth, and 2.8 mi (4.5 km) east of courthouse in Canon City.

DRAINAGE AREA.--434 mi² (1,124 km²).

PERIOD OF RECORD.--April to October 1910 (gage heights and discharge measurements only), October 1948 to September 1953, November 1970 to current year. Published as "Oil or Fourmile Creek" in 1910 and as Oil Creek near Canon City, 1948-53.

GAGE.--Water-stage recorder. Concrete control since Oct. 1, 1974. Altitude of gage is 5,254 ft (1,601 m), from topographic map. April to October 1910, nonrecording gage at site 1,200 ft (370 m) upstream at different datum. October 1948 to September 1953, water-stage recorder at site 0.6 mi (1.0 km) upstream at different datum.

REMARKS.--Records good. Diversions for irrigation of about 500 acres (2.02 km²) above station. Water imported to basin from Arkansas River for irrigation of a few small orchards above station. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--13 years (water years 1949-53, 1972-79), 16.8 ft³/s (0.476 m³/s), 12,170 acre-ft/yr (15.0 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,260 ft³/s (121 m³/s) July 11, 1951, gage height, 9.25 ft (2.819 m), from floodmarks, site and datum then in use, from rating curve extended above 96 ft³/s (2.7 m³/s), on basis of slope-area measurement of peak flow; no flow Sept. 3-10, 1950, Sept. 23, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 230 ft³/s (6.51 m³/s) at 0115 July 25, gage height, 3.75 ft (1.143 m), no peak above base of 300 ft³/s (8.5 m³/s); minimum daily, 0.54 ft³/s (0.015 m³/s) Mar. 10-12, 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	14	13	3.2	2.5	4.1	24	23	43	23	13	12
2	13	12	12	3.2	3.4	4.9	23	33	48	26	13	12
3	13	12	5.7	3.2	3.8	5.5	21	45	42	28	12	12
4	13	12	3.8	3.2	3.4	5.5	20	41	34	32	11	12
5	14	11	3.8	3.4	3.1	4.1	19	46	35	30	12	11
6	15	13	3.8	3.6	3.1	2.5	18	38	34	27	12	11
7	15	12	2.9	3.8	4.1	.68	18	36	37	30	12	11
8	15	10	2.9	3.8	3.8	.68	17	33	51	33	13	11
9	15	11	2.9	3.8	3.8	.61	17	33	58	26	13	11
10	14	12	3.5	3.8	4.6	.54	17	36	51	21	16	10
11	14	14	3.8	3.8	4.6	.54	17	34	48	18	17	10
12	14	15	4.3	3.8	4.6	.54	17	34	47	16	16	10
13	14	15	3.8	3.8	4.1	.61	17	38	42	16	15	11
14	13	16	4.3	3.8	3.8	.54	16	30	37	16	21	14
15	12	15	4.3	3.8	3.8	.61	16	22	35	36	28	19
16	12	15	3.8	3.1	4.3	.61	17	19	34	24	20	19
17	11	15	3.8	3.1	4.8	.61	22	16	31	26	16	17
18	11	13	3.8	3.1	4.5	.61	25	13	29	24	16	21
19	11	11	4.3	3.1	4.5	.68	22	11	27	22	22	22
20	10	11	4.3	2.8	4.3	1.3	21	12	22	18	23	22
21	11	12	3.2	2.5	4.3	1.2	22	23	21	20	22	25
22	13	10	3.8	2.8	4.1	2.3	22	27	22	16	24	27
23	13	11	3.8	2.8	4.2	8.4	18	29	22	15	24	27
24	11	13	3.8	2.8	4.0	13	18	24	23	15	24	26
25	11	15	3.8	2.8	3.5	14	25	21	25	58	22	25
26	12	15	3.8	3.4	3.5	14	23	26	23	33	25	24
27	12	13	3.4	3.1	4.1	14	26	22	24	24	27	23
28	10	12	3.8	2.8	4.1	14	24	21	25	21	22	23
29	9.4	11	4.3	2.8	---	22	23	20	25	18	18	22
30	9.0	13	3.4	2.8	---	28	24	21	23	17	14	23
31	11	---	3.2	2.8	---	26	---	43	---	13	13	---
TOTAL	384.4	384	135.1	100.6	110.7	192.66	609	864	1018	742	556	523
MEAN	12.4	12.8	4.36	3.25	3.95	6.21	20.3	27.9	33.9	23.9	17.9	17.4
MAX	15	16	13	3.8	4.8	28	26	45	58	58	28	27
MIN	9.0	10	2.9	2.5	2.5	.54	16	11	21	13	11	10
AC-FT	762	762	268	200	220	382	1210	1710	2020	1470	1100	1040

CAL YR 1978 TOTAL 4825.40 MEAN 13.2 MAX 42 MIN 2.9 AC-FT 9570
WTR YR 1979 TOTAL 5619.46 MEAN 15.4 MAX 58 MIN .54 AC-FT 11150

07097000 ARKANSAS RIVER AT PORTLAND, CO

LOCATION.--Lat 38°23'18", long 105°00'56", in NE¼NE¼ sec.20, T.19 S., R.68 W., Fremont County, Hydrologic Unit 11020002, on right bank at bridge on State Highway 120 at Portland and 1 mi (1.6 km) downstream from Hardscrabble Creek.

WATER-DISCHARGE RECORDS

DRAINAGE AREA.--4,024 mi² (10,422 km²).

PERIOD OF RECORD.--May 1939 to September 1952, October 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 5,021.59 ft (1,530.581 m), National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1974, at site 400 ft (120 m) downstream at datum 0.03 ft (0.009 m) lower.

REMARKS.--Records good. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, diversions above station for irrigation of about 60,000 acres (243 km²) and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--18 years (water years 1940-52, 1975-79), 716 ft³/s (20.28 m³/s), 518,700 acre-ft/yr (640 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,100 ft³/s (598 m³/s) June 5, 1949, gage height, 12.12 ft (3.712 m), from rating curve extended above 5,300 ft³/s (150 m³/s); minimum daily, 71 ft³/s (2.01 m³/s) Apr. 2, 1945.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,170 ft³/s (146 m³/s) at 0230 June 9, gage height, 7.06 ft (2.152 m); minimum daily, 150 ft³/s (1.42 m³/s) Jan. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	162	209	307	180	158	196	368	376	3060	3720	912	687
2	153	185	296	150	207	202	356	456	2730	3780	693	642
3	155	188	275	180	204	199	314	540	2570	3640	587	429
4	165	175	260	200	191	185	279	495	2630	3390	570	364
5	183	165	245	230	185	180	256	447	2810	3230	648	325
6	204	165	220	225	185	183	283	424	3100	2990	636	293
7	199	170	190	215	191	253	300	404	3660	2870	614	329
8	199	168	180	195	191	228	314	434	4380	2720	658	333
9	196	162	250	190	196	243	380	465	4700	2570	604	322
10	188	160	270	210	194	216	396	555	2730	2400	653	333
11	183	178	290	210	202	204	344	515	2050	2300	658	329
12	191	216	325	220	204	222	293	485	2430	2240	626	340
13	185	240	348	230	216	231	256	465	3050	2170	592	372
14	196	237	333	240	243	240	253	442	3500	2020	840	416
15	194	240	300	210	253	243	293	420	4120	2110	1500	368
16	196	250	272	230	222	286	329	438	3860	2090	1380	325
17	194	253	256	231	216	296	344	465	3630	1930	1150	300
18	188	256	266	222	199	396	344	510	3440	1850	1170	293
19	194	266	310	216	199	434	344	576	3710	1690	990	279
20	191	266	293	199	207	447	340	814	3630	1570	944	272
21	194	276	247	172	219	434	307	1070	3180	1470	906	429
22	247	272	240	194	219	384	303	1080	2860	1440	1230	480
23	266	272	243	199	207	364	300	1260	2980	1420	1590	456
24	243	269	240	175	191	325	286	1640	3150	1340	1420	438
25	237	289	240	168	185	296	234	1860	3400	1390	1390	460
26	237	289	234	213	199	303	336	2130	3150	1330	1140	460
27	231	289	210	180	199	329	352	2320	3550	1190	753	325
28	204	269	228	175	196	360	348	2730	3690	1060	808	293
29	188	272	237	168	---	452	368	3240	3750	1040	912	286
30	175	310	228	175	---	400	376	3450	3690	1010	866	279
31	175	---	210	160	---	352	---	3630	---	951	735	---
TOTAL	6113	6956	8043	6162	5678	9083	9596	34136	99190	64921	28175	11257
MEAN	197	232	259	199	203	293	320	1101	3306	2094	909	375
MAX	266	310	348	240	253	452	396	3630	4700	3780	1590	687
MIN	153	160	180	150	158	180	234	376	2050	951	570	272
AC-FT	12130	13800	15950	12220	11260	18020	19030	67710	196700	128800	55890	22330

CAL YR 1978 TOTAL 208269 MEAN 571 MAX 3890 MIN 93 AC-FT 413100
WTR YR 1979 TOTAL 289310 MEAN 793 MAX 4700 MIN 150 AC-FT 573800

07097000 ARKANSAS RIVER AT PORTLAND, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--February 1977 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	TEMPERATURE (DEG C)	DATE	TIME	TEMPERATURE (DEG C)
OCT			APR		
05...	0925	6.0	12...	1000	9.5
12...	1400	16.0	25...	1145	13.0
16...	1125	12.0	27...	1010	13.0
NOV			MAY		
13...	1315	5.5	07...	0945	14.0
27...	1005	1.0	14...	1100	17.5
DEC			31...	1045	11.5
15...	1040	1.0	JUN		
20...	1000	3.5	01...	1110	12.0
29...	1040	1.0	25...	1130	12.5
JAN			JUL		
09...	1610	1.0	31...	1115	19.0
15...	1300	.0	AUG		
25...	1055	1.5	14...	1300	19.0
FEB			28...	1530	23.0
16...	1200	1.0			
MAR					
19...	1300	10.0			

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	NITROGEN, DISSOLVED (MG/L AS N)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)
OCT										
12...	1400	179	550	8.1	--	13.6	--	200	69	69
NOV										
13...	1315	219	530	8.3	--	12.7	--	220	77	57
DEC										
20...	1000	231	508	7.9	--	12.3	--	190	67	51
JAN										
15...	1300	392	490	7.8	--	--	--	200	76	52
FEB										
16...	1200	228	570	7.6	--	10.0	--	220	99	58
MAR										
19...	1300	360	530	7.8	--	9.2	--	190	72	52
APR										
12...	1000	310	450	8.1	4.0	12.7	--	160	48	42
MAY										
14...	1100	429	355	8.3	6.5	9.8	--	140	66	37
JUN										
25...	1130	3380	190	7.1	25	9.0	--	69	16	20
JUL										
31...	1115	970	270	8.1	3.5	8.7	--	100	29	29
AUG										
14...	1300	760	390	8.0	52	--	--	150	56	41
28...	1530	789	324	8.1	3.2	--	.21	130	46	36

07097000 ARKANSAS RIVER AT PORTLAND, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
OCT 12...	6.7	27	.8	2.7	160	0	130	120	8.9	.6
NOV 13...	18	30	.9	2.6	170	0	140	110	9.5	.5
DEC 20...	16	26	.8	2.7	150	0	123	120	9.8	.6
JAN 15...	16	28	.9	2.6	--	--	120	130	10	.6
FEB 16...	18	28	.8	2.7	--	--	120	140	14	.5
MAR 19...	15	22	.7	2.5	--	--	120	97	8.4	.5
APR 12...	13	25	.9	2.3	--	--	110	91	9.0	.5
MAY 14...	11	18	.7	2.2	--	--	72	89	7.1	.4
JUN 25...	4.7	7.5	.4	1.4	--	--	53	33	2.8	.3
JUL 31...	7.5	10	.4	1.7	--	--	74	53	4.5	.4
AUG 14...	11	18	.6	2.8	--	--	92	83	6.6	.4
28...	9.9	15	.6	1.5	--	--	85	69	4.6	.4

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)
OCT 12...	10	--	325	.44	157	--	--	--	.28	--
NOV 13...	12	--	325	.44	192	--	--	--	.37	--
DEC 20...	12	--	315	.43	196	--	--	--	.56	--
JAN 15...	13	--	327	.44	346	--	--	--	.56	--
FEB 16...	12	--	348	.47	214	--	--	--	.61	--
MAR 19...	12	--	283	.38	275	--	--	--	.34	--
APR 12...	11	260	260	.35	218	.13	.02	.15	--	.05
MAY 14...	7.1	218	215	.30	253	.07	.02	.09	--	.01
JUN 25...	7.7	104	109	.14	949	.12	.02	.14	--	.12
JUL 31...	8.7	169	159	.23	443	.19	.02	.21	--	.01
AUG 14...	11	269	229	.37	552	.21	.04	.25	--	.07
28...	11	194	199	.26	413	1.5	.02	1.5	.16	.19

07097000 ARKANSAS RIVER AT PORTLAND, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DISSOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	PHYTOPLANKTON, TOTAL (CELLS PER ML)
OCT										
12...	--	--	--	--	--	.050	--	20	40	--
NOV										
13...	--	--	--	--	--	.050	--	10	40	--
DEC										
20...	--	--	--	--	--	.080	--	20	40	--
JAN										
15...	--	--	--	--	--	.100	--	20	40	--
FEB										
16...	--	--	--	--	--	.090	--	30	40	--
MAR										
19...	--	--	--	--	--	.030	--	30	100	--
APR										
12...	.27	.32	.34	.47	.060	.040	.04	130	40	--
MAY										
14...	.33	.34	.19	.43	1.30	.040	.04	--	--	5200
JUN										
25...	.46	.58	.48	.72	.880	.040	.02	60	10	0
JUL										
31...	.06	.07	.10	.28	.040	.040	.02	--	--	1000
AUG										
14...	.80	.87	.26	1.1	.400	.350	.04	20	20	1700
28...	.00	.10	.05	1.6	.050	.020	.03	--	--	--

07097000 ARKANSAS RIVER AT PORTLAND, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)
APR										
12...	1000	0	1	0	100	60	0	<1	0	0
MAY										
14...	1100	--	--	--	--	--	--	--	--	--
JUN										
25...	1130	0	2	0	100	20	3	<1	0	10
JUL										
31...	1115	--	--	--	--	--	--	--	--	--
AUG										
14...	1300	0	1	1	200	50	1	5	0	10
28...	1530	--	--	--	--	--	--	--	--	--

DATE	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)
APR										
12...	0	<3	11	2	500	94	0	60	.1	.0
MAY										
14...	--	--	--	--	--	--	--	--	--	--
JUN										
25...	5	<3	58	11	3900	72	1	290	.1	.0
JUL										
31...	--	--	--	--	--	--	--	--	--	--
AUG										
14...	3	<3	13	3	7600	16	0	210	.9	.0
28...	--	--	--	--	--	--	--	--	--	--

DATE	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)
APR									
12...	5	2	1	0	0	50	10	--	4.0
MAY									
14...	--	--	--	--	--	--	--	9.7	--
JUN									
25...	18	1	1	0	0	340	20	--	3.7
JUL									
31...	--	--	--	--	--	--	--	3.3	--
AUG									
14...	6	2	1	0	0	110	5	--	2.9
28...	--	--	--	--	--	--	--	2.6	--

07097000 ARKANSAS RIVER AT PORTLAND, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	CYANIDE TOTAL (MG/L AS CN)	PHENOLS (UG/L)	PCB, TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)
APR												
12...	1000	.00	0	--	--	--	--	--	--	--	--	--
AUG												
14...	1300	.00	3	.0	.00	.0	.00	.00	.00	.03	.00	.01

DATE	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)
APR											
12...	--	--	--	--	--	--	--	--	--	--	--
AUG											
14...	.00	.00	.00	.00	.00	.01	.00	.00	.00	0	.00

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT					
12...	1400	179	14	6.8	78
27...	1140	231	19	12	78
NOV					
13...	1315	219	25	15	64
DEC					
01...	1000	307	35	29	48
20...	1000	231	46	29	60
JAN					
02...	1450	150	70	28	44
15...	1230	210	67	38	--
FEB					
01...	1410	158	44	19	63
16...	1145	222	34	20	76
MAR					
01...	1015	196	30	16	53
19...	1300	360	469	456	60
APR					
02...	1115	356	45	43	31
12...	1035	293	27	21	36
APR					
28...	1111	348	79	74	61
MAY					
14...	1130	442	80	95	43
JUN					
04...	1312	2630	508	3610	22
25...	1130	3380	2310	21100	5
JUL					
09...	1500	2570	196	1360	22
AUG					
17...	0935	1150	188	584	44
28...	1445	808	60	131	--
SEP					
14...	1220	416	92	103	--
26...	1200	460	24	30	--
28...	1415	293	22	17	--

07099100 BEAVER CREEK NEAR PORTLAND, CO

LOCATION.--Lat 38°22'27", long 104°57'49", in NW¼NE¼ sec.26, T.19 S., R.68 W., Fremont County, Hydrologic Unit 11020002, on right bank 80 ft (24 m) downstream from bridge on State Highway 120, 1,500 ft (460 m) upstream from mouth, and 3.4 mi (5.5 km) southeast of Portland.

DRAINAGE AREA.--214 mi² (554 km²).

PERIOD OF RECORD.--November 1970 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,993 ft (1,522 m), from topographic map.

REMARKS.--Records good except those above 300 ft³/s (8.50 m³/s), which are fair. Storage and diversions above station for municipal supply of city of Colorado Springs. Water exported above station for irrigation of a few hundred acres in adjacent basin. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--8 years (water years 1972-79), 6.56 ft³/s (0.186 m³/s), 4,750 acre-ft/yr (5.86 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,800 ft³/s (136 m³/s) Sept. 9, 1973, gage height, 7.56 ft (2.304 m) in gage well, 8.79 ft (2.679 m), from floodmarks, from rating curve extended above 17 ft³/s (0.5 m³/s), on basis of slope-area measurement at gage height 4.36 ft (1.329 m); no flow for several days in 1971, 1974, 1975, and 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,450 ft³/s (41.1 m³/s) at 1915 July 15, gage height, 5.41 ft (1.649 m); no flow Feb. 8-12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	.14	.14	.12	.04	.06	.15	.13	68	.15	.14	.40
2	.03	.14	.15	.10	.02	.06	.12	.15	94	.15	.12	.35
3	.03	.14	.22	.08	.02	.06	.12	.14	112	.15	.12	.30
4	.03	.14	.23	.07	.01	.06	.08	.12	115	1.9	.12	.24
5	.04	.14	.18	.07	.01	.06	.08	.12	113	.30	.12	.21
6	.04	.14	.16	.07	.01	.06	.08	.11	107	.18	.11	.21
7	.04	.14	.14	.06	.01	.06	.08	.12	106	.15	.10	.24
8	.04	.12	.13	.07	.00	.06	.08	.13	146	.15	.10	.24
9	.04	.12	.13	.08	.00	.08	.08	.14	160	.12	.10	.21
10	.04	.14	.13	.05	.00	.08	.08	.13	149	.10	.12	.21
11	.04	.15	.14	.05	.00	.06	.10	.13	108	.10	.12	.21
12	.03	.14	.20	.04	.00	.06	.08	.13	89	.10	.11	.24
13	.05	.14	.28	.08	.08	.08	.08	.13	103	.10	.10	.24
14	.05	.14	.29	.11	.08	.21	.08	.12	103	.10	.19	.35
15	.05	.14	.24	.13	.08	.18	.09	.12	104	152	.23	.30
16	.05	.14	.26	.08	.08	.12	.09	.11	93	8.7	.21	.30
17	.05	.14	.31	.06	.08	.12	.09	.11	74	1.1	.16	.30
18	.06	.14	.24	.06	.08	.12	.09	.06	58	.43	.19	.24
19	.06	.14	.24	.06	.06	.12	.09	.07	43	.34	.26	.24
20	.06	.14	.24	.06	.06	.15	.10	.14	36	.29	.20	.24
21	.06	.14	.29	.06	.06	.12	.10	.12	19	.23	.22	.30
22	.08	.14	.24	.08	.06	.15	.10	.12	16	.20	.20	.24
23	.08	.14	.24	.08	.06	.12	.09	.09	14	.19	.20	.21
24	.08	.14	.27	.08	.06	.12	.09	.09	10	.16	.17	.21
25	.09	.15	.24	.08	.06	.12	.11	3.0	5.2	.18	.17	.21
26	.10	.15	.25	.08	.06	.12	.11	.19	2.8	.34	11	.21
27	.10	.14	.29	.05	.08	.12	.12	.79	.90	.20	26	.21
28	.10	.14	.24	.05	.06	.12	.12	37	.30	.16	5.2	.24
29	.10	.14	.25	.04	---	.12	.12	11	.21	.14	2.5	.24
30	.11	.14	.21	.04	---	.12	.12	11	.21	.14	1.0	.24
31	.12	---	.15	.04	---	.12	---	56	---	.13	.60	---
TOTAL	1.88	4.19	6.72	2.18	1.22	3.21	2.92	121.81	2049.62	168.68	50.18	7.58
MEAN	.061	.14	.22	.070	.044	.10	.097	3.93	68.3	5.44	1.62	.25
MAX	.12	.15	.31	.13	.08	.21	.15	56	160	152	26	.40
MIN	.03	.12	.13	.04	.00	.06	.08	.06	.21	.10	.10	.21
AC-FT	3.7	8.3	13	4.3	2.4	6.4	5.8	242	4070	3[illegible]6	100	15

CAL YR 1978 TOTAL 260.92 MEAN .71 MAX 128 MIN .02 AC-FT 518
WTR YR 1979 TOTAL 2420.19 MEAN 6.63 MAX 160 MIN .00 AC-FT 4800

07099200 ARKANSAS RIVER NEAR PORTLAND, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 38°20'14", long 104°56'18", in NW¼SW¼ sec.6, T.20 S., R.67 W., Pueblo County, Hydrologic Unit 11020002, 1.4 mi (2.3 km) downstream from Willow Creek and 5.4 mi (8.7 km) southeast of Portland.

DRAINAGE AREA.--4,280 mi² (11,085 km²).

PERIOD OF RECORD.--October 1964 to current year (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT 12...	1305	179	640	8.1	15.0	14.2	270	130	73	21
NOV 13...	1220	216	590	7.9	6.0	14.0	250	100	66	21
DEC 20...	0930	231	550	7.8	2.0	--	230	99	61	20
JAN 15...	1530	392	625	8.0	.0	--	240	110	62	20
FEB 16...	1410	228	580	7.6	1.0	11.0	220	100	57	19
MAR 19...	1515	360	464	8.1	9.0	9.0	200	82	56	15
APR 12...	1230	310	510	8.6	11.0	13.8	190	70	48	17
MAY 16...	1400	404	390	8.2	18.5	9.8	170	88	46	13
JUN 25...	1415	3380	200	7.1	14.0	9.3	67	19	19	4.8
JUL 31...	1415	970	296	8.7	20.5	7.9	110	40	32	8.4
AUG 29...	1115	938	320	7.4	17.5	9.3	130	50	36	9.6

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 12...	32	.9	3.1	170	0	140	170	11	.6
NOV 13...	30	.8	2.9	180	0	150	130	15	.6
DEC 20...	30	.9	2.8	160	0	131	150	10	.6
JAN 15...	31	.9	3.0	--	--	130	150	11	.6
FEB 16...	27	.8	2.9	--	--	120	140	12	.5
MAR 19...	22	.7	2.4	--	--	120	100	2.0	.5
APR 12...	29	.9	2.4	--	--	120	110	9.8	.5
MAY 16...	19	.6	2.3	--	--	80	110	7.6	.5
JUN 25...	5.6	.3	1.1	--	--	48	32	2.7	.3
JUL 31...	12	.5	1.7	--	--	75	64	4.4	.4
AUG 29...	13	.5	1.4	--	--	79	67	3.9	.4

07099200 ARKANSAS RIVER NEAR PORTLAND, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
OCT									
12...	8.5	404	.55	195	.12	.060	--	--	60
NOV									
13...	11	367	.50	214	.32	.050	--	20	50
DEC									
20...	13	369	.50	230	.60	.080	--	20	60
JAN									
15...	13	372	.51	394	.70	.110	--	20	30
FEB									
16...	12	345	.47	212	.59	.100	--	30	50
MAR									
19...	12	284	.39	276	.33	.030	--	20	80
APR									
12...	10	300	.41	251	.14	.040	.04	20	30
MAY									
16...	7.2	254	.35	277	.15	.040	--	10	10
JUN									
25...	7.6	102	.14	931	.10	.020	--	60	20
JUL									
31...	8.9	177	.24	464	.04	.040	--	20	20
AUG									
29...	10	190	.26	481	.16	.020	.02	120	20

07099215 TURKEY CREEK NEAR FOUNTAIN, CO

LOCATION.--Lat 38°36'42", long 104°53'39", in NW¼SE¼ sec.35, T.33 S., R.67 W., El Paso County, Hydrologic Unit 1120002, on Ft. Carson Military Reservation, on right bank 100 ft (30 m) downstream from State Highway 115 bridge, 0.7 m (1.1 km) downstream from Turkey Canyon, 0.8 mi (1.3 km) upstream from Turkey Creek Ranch, and 9.4 mi (15.1 km) southwest of Fountain.

DRAINAGE AREA.--13.0 mi² (33.7 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,420 ft (1,957 m), from topographic map.

REMARKS.--Records good except those above 6.0 ft³/s (0.17 m³/s), which are poor.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 15 ft³/s (0.42 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Aug. 28	2300	*62	1.76	3.21	0.978	June 6	1800	20	0.57	2.62	0.799
Apr. 11	1215	18	0.51	2.58	0.786	July 3	1745	59	1.67	3.18	0.969
June 3	0630	18	0.51	2.58	0.786	July 14	2030	50	1.42	3.06	0.933

No flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								---	.03	.00	.00	.00
2								---	.02	.00	.00	.00
3								---	.01	.00	.00	.00
4								---	.00	.00	.00	.00
5								---	.00	.00	.00	.00
6								---	.02	.00	.00	.00
7								---	.05	.00	.00	.00
8								---	.04	.00	.00	.00
9								---	.00	.00	.00	.00
10								---	.00	.00	.00	.00
11								---	.00	.00	.00	.00
12								---	.00	.00	.00	.00
13								---	.00	.00	.00	.00
14								---	.00	.00	.00	.00
15								---	.00	.00	.00	.00
16								---	.00	.00	.00	.00
17								---	.00	.00	.00	.00
18								---	.00	.00	.00	.00
19								---	.00	.00	.00	.00
20								---	.00	.00	.00	.00
21								---	.00	.00	.00	.00
22								---	.00	.00	.00	.00
23								---	.00	.00	.00	.00
24								---	.00	.00	.00	.00
25								.01	.00	.00	.00	.00
26								.04	.00	.00	.00	.00
27								.03	.00	.00	.00	.00
28								.10	.00	.00	.94	.00
29								.05	.00	.26	.18	.00
30								.03	.00	.00	.00	.00
31								.02	---	.00	.00	---
TOTAL								---	.17	.26	1.12	.00
MEAN								---	.006	.008	.036	.000
MAX.								---	.05	.26	.94	.00
MIN								---	.00	.00	.00	.00
AC-FT								---	.3	.5	2.2	.00

07099215 TURKEY CREEK NEAR FOUNTAIN, CO--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.32	3.0	7.8	.60	.00	.00
2	.00	.00	.00	.00	.00	.00	.01	3.1	11	.70	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	3.2	17	3.5	.00	.00
4	.00	.00	.00	.00	.00	.00	.15	3.1	17	3.0	.00	.00
5	.00	.00	.00	.00	.00	.00	.01	3.4	16	1.7	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	3.4	13	1.9	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	3.6	12	1.4	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	3.6	13	.93	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	3.6	17	.60	.00	.00
10	.00	.00	.00	.00	.00	.00	.72	3.5	19	.43	.00	.00
11	.00	.00	.00	.00	.00	.00	4.2	3.0	19	.27	.00	.00
12	.00	.00	.00	.00	.00	.00	2.1	2.8	17	.13	.00	.00
13	.00	.00	.00	.00	.00	.00	2.3	2.5	14	.08	.00	.00
14	.00	.00	.00	.00	.00	.00	1.6	2.2	12	1.2	.03	.00
15	.00	.00	.00	.00	.00	.00	2.4	1.9	9.7	1.7	.01	.00
16	.00	.00	.00	.00	.00	.00	3.2	1.9	8.2	.80	.00	.00
17	.00	.00	.00	.00	.00	.00	4.1	2.0	6.9	.62	.00	.00
18	.00	.00	.00	.00	.00	.00	4.1	1.9	5.8	.37	.00	.00
19	.00	.00	.00	.00	.00	.00	5.8	1.7	5.1	.27	.00	.00
20	.00	.00	.00	.00	.00	.00	5.6	2.1	4.3	.10	.00	.00
21	.00	.00	.00	.00	.00	.00	5.4	2.3	3.6	.02	.00	.00
22	.00	.00	.00	.00	.00	.00	5.1	1.9	2.9	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	4.9	1.8	2.4	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	5.4	1.8	2.1	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	5.3	1.7	1.7	.04	.00	.00
26	.00	.00	.00	.00	.00	.00	4.7	1.5	1.1	.06	.14	.00
27	.00	.00	.00	.00	.00	.00	4.2	1.6	.76	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	3.6	2.4	.70	.00	.00	.00
29	.00	.00	.00	.00	---	.00	3.2	2.4	.69	.00	.00	.00
30	.00	.00	.00	.00	---	.01	3.0	3.6	.39	.00	.00	.00
31	.00	---	.00	.00	---	.21	---	6.9	---	.00	.00	---
TOTAL	.00	.00	.00	.00	.00	.22	81.41	83.4	261.14	20.42	.18	.00
MEAN	.000	.000	.000	.000	.000	.007	2.71	2.69	8.70	.66	.006	.000
MAX	.00	.00	.00	.00	.00	.21	5.8	6.9	19	3.5	.14	.00
MIN	.00	.00	.00	.00	.00	.00	.00	1.5	.39	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.4	161	165	518	41	.4	.00

WTR YR 1979 TOTAL 446.77 MEAN 1.22 MAX 19 MIN .00 AC-FT 886

07099215 TURKEY CREEK NEAR FOUNTAIN, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
APR										
12...	1530	2.1	265	7.7	4.0	9.6	97	13	24	8.9
30...	1240	2.9	200	7.2	11.0	8.5	73	20	18	6.7
MAY										
02...	1230	1.5	230	7.0	9.0	8.9	92	26	26	6.5
30...	1215	2.3	160	7.3	9.0	9.1	66	15	17	5.8
JUL										
09...	1415	.55	290	7.8	28.0	5.7	110	12	28	10

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, TOTAL (MG/L AS F)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
APR									
12...	14	.6	1.6	84	37	3.5	--	.6	14
30...	12	.6	2.1	53	30	3.9	--	.6	16
MAY									
02...	8.8	.4	2.4	66	33	2.7	.5	--	11
30...	11	.6	1.6	51	21	3.5	--	.7	13
JUL									
09...	15	.6	2.2	99	31	3.1	--	.6	18

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)
APR									
12...	161	.22	.94	10	6	50	1.5	.010	.04
30...	127	.17	1.02	20	7	7	1.3	.020	--
MAY									
02...	132	.18	.53	30	0	0	.33	.030	--
30...	106	.14	.66	10	10	--	.29	.050	--
JUL									
09...	173	.24	.26	10	6	12	1.3	.010	--

07099230 TURKEY CREEK ABOVE TELLER RESERVOIR NEAR STONE CITY, CO

LOCATION.--Lat 38°27'37", long 104°49'19", in NW¼NE¼ sec.30, T.18 S., R.66 W., Pueblo County, Hydrologic Unit 11020002, on Ft. Carson Military Reservation, on left bank, 0.5 mi (0.8 km) west of intersection of military roads 9 and 1, 1.6 mi (2.6 km) upstream from Teller Reservoir Dam and 2.4 mi (3.9 km) northeast of Stone City.

DRAINAGE AREA.--62.5 mi² (162 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,520 ft (1,682 m) from topographic map.

REMARKS.--Records good except those above 16 ft³/s (0.45 m³/s) which are fair. Diversions above gage for irrigation, amount unknown.

EXTREMES FOR CURRENT YEAR.--Peak discharges for period May 18, 1978 to Sept. 30, 1979, above base of 20 ft³/s (0.57 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
June 4	1930	49	1.39	6.37	1.942	June 10	1115	23	0.65	6.04	1.841
Aug. 10	1530	69	1.95	6.55	1.996	June 28	1700	127	3.60	6.94	2.115
Aug. 29	0130	*284	8.04	7.64	2.329	July 15	0115	80	2.27	6.63	2.021

No flow most of time.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								---	.00	.00	.00	.00
2								---	.00	.00	.00	.00
3								---	.00	.00	.00	.00
4								---	3.5	.00	.00	.00
5								---	.14	.00	.00	.00
6								---	.00	.00	.00	.00
7								---	.00	.00	.00	.00
8								---	.00	.00	.00	.00
9								---	.00	.00	.00	.00
10								---	.00	.00	3.4	.00
11								---	.00	.00	.00	.00
12								---	.00	.00	.00	.00
13								---	.00	.00	.00	.00
14								---	.00	.00	.00	.00
15								---	.00	.00	.00	.00
16								---	.00	.00	.00	.00
17								---	.00	.00	.00	.00
18								.00	.00	.00	.00	.00
19								.00	.00	.00	.00	.00
20								.00	.00	.00	.00	.00
21								.00	.00	.00	.00	.00
22								.00	.00	.00	.00	.00
23								.00	.00	.00	.00	.00
24								.00	.00	.00	.00	.00
25								.00	.00	.00	.00	.00
26								.00	.00	.00	.00	.00
27								.00	.00	.00	.00	.00
28								.00	.00	.00	.00	.00
29								.00	.00	.00	16	.00
30								.00	.00	.00	.00	.00
31								.00	---	.00	.00	---
TOTAL								---	3.64	.00	19.40	.00
MEAN								---	.12	.000	.63	.000
MAX								---	3.5	.00	16	.00
MIN								---	.00	.00	.00	.00
AC-FT								---	7.2	.00	38	.00

07099230 TURKEY CREEK ABOVE TELLER RESERVOIR NEAR STONE CITY, CO--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.37	.08	.07
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.33	.10	.06
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.24	.10	.05
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.5	.12	.05
5	.00	.00	.00	.00	.00	.00	.00	.00	2.1	1.5	.14	.05
6	.00	.00	.00	.00	.00	.00	.00	.00	4.3	2.0	.12	.06
7	.00	.00	.00	.00	.00	.00	.00	.00	4.6	2.7	.12	.06
8	.00	.00	.00	.00	.00	.00	.00	.00	8.8	1.4	.11	.06
9	.00	.00	.00	.00	.00	.00	.00	.00	16	.68	.11	.06
10	.00	.00	.00	.00	.00	.00	.00	.00	21	.41	.11	.06
11	.00	.00	.00	.00	.00	.00	.00	.00	21	.36	.11	.06
12	.00	.00	.00	.00	.00	.00	.00	.00	17	.34	.09	.06
13	.00	.00	.00	.00	.00	.00	.00	.00	15	.33	.08	.06
14	.00	.00	.00	.00	.00	.00	.00	.00	13	.30	.12	.09
15	.00	.00	.00	.00	.00	.00	.00	.00	10	10	.14	.09
16	.00	.00	.00	.00	.00	.00	.00	.00	7.9	.69	.12	.07
17	.00	.00	.00	.00	.00	.00	.00	.00	6.5	.37	.12	.06
18	.00	.00	.00	.00	.00	.00	.00	.00	4.9	.31	.12	.06
19	.00	.00	.00	.00	.00	.00	.00	.00	3.9	.24	.11	.11
20	.00	.00	.00	.00	.00	.00	.00	.00	2.9	.22	.09	.12
21	.00	.00	.00	.00	.00	.00	.00	.00	1.9	.22	.10	.12
22	.00	.00	.00	.00	.00	.00	.00	.00	1.1	.18	.09	.10
23	.00	.00	.00	.00	.00	.00	.00	.00	.61	.15	.08	.08
24	.00	.00	.00	.00	.00	.00	.00	.00	1.3	.12	.10	.07
25	.00	.00	.00	.00	.00	.00	.00	.00	1.1	.13	.10	.07
26	.00	.00	.00	.00	.00	.00	.00	.00	.53	.13	.11	.06
27	.00	.00	.00	.00	.00	.00	.00	.00	.33	.12	.09	.06
28	.00	.00	.00	.00	.00	.00	.00	.00	8.2	.12	.08	.05
29	.00	.00	.00	.00	---	.00	.00	.00	1.1	.12	.08	.04
30	.00	.00	.00	.00	---	.00	.00	.00	.45	.12	.08	.04
31	.00	---	.00	.00	---	.00	---	.00	---	.10	.07	---
TOTAL	.00	.00	.00	.00	.00	.00	.00	.00	175.52	26.80	3.19	2.05
MEAN	.000	.000	.000	.000	.000	.000	.000	.000	5.85	.86	.10	.068
MAX	.00	.00	.00	.00	.00	.00	.00	.00	21	10	.14	.12
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.10	.07	.04
AC-FT	.00	.00	.00	.00	.00	.00	.00	.00	348	53	6.3	4.1

WTR YR 1979 TOTAL 207.56 MEAN .57 MAX 21 MIN .00 AC-FT 412

07099230 TURKEY CREEK ABOVE TELLER RESERVOIR NEAR STONE CITY, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
JUN												
05...	1218	3.1	270	7.7	21.5	6.6	140	52	40	10	16	.6
06...	0945	5.1	380	7.6	16.0	7.7	150	62	43	11	15	.5
JUL												
10...	1030	.43	810	7.8	19.0	7.6	430	240	120	32	42	.9
AUG												
09...	1145	.13	910	8.1	20.5	8.2	460	280	130	34	63	1.3

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)
JUN												
05...	3.9	89	68	5.5	.6	27	227	592	--	.55	--	--
06...	2.9	91	80	4.8	.6	16	230	358	.66	.54	.02	.00
JUL												
10...	3.5	190	330	15	.8	17	675	3	--	.08	--	--
AUG												
09...	3.4	200	370	12	.8	18	752	9	--	.02	--	--

DATE	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JUN											
05...	--	--	--	--	--	--	--	.050	--	140	20
06...	1.1	.33	1.1	.77	.33	1.8	.310	.030	.08	10	10
JUL											
10...	--	--	--	--	--	--	--	.010	--	10	120
AUG											
09...	--	--	--	--	--	--	--	.000	--	40	70

DATE	TIME	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)
JUN												
06...	0945	7700	2	100	0	80	1	0	12	6600	19	240

DATE	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)
JUN												
06...	.1	1	11	2	0	50	8.7	27	4.2	13	3.9	12

07099235 TURKEY CREEK NEAR STONE CITY, CO

LOCATION.--Lat 38°26'27", long 104°49'31", in SE¼NW¼ sec.31, T.18 S., R.66 W., Pueblo County, Hydrologic Unit 11020002, on Ft. Carson Military Reservation, on left bank, 0.1 mi (0.2 km) downstream from Teller Reservoir Dam, 1 mi (1.6 km) upstream from Military road No. 11, and 2.1 mi (3.4 km) southeast of Stone City.

DRAINAGE AREA.--71.5 mi² (185 km²).

PERIOD OF RECORD.--May 1978 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage 5,400 ft (1,646 m), from topographic map.

REMARKS.--Records fair. Flow regulated by Teller Reservoir 0.1 mi (0.2 km) upstream. Gage records seepage from reservoir. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 0.19 ft³/s (0.005 m³/s), July 24, 1979, gage height, 0.42 ft (0.128 m); minimum daily, 0.01 ft³/s (0.001 m³/s) on many days.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 0.19 ft³/s (0.005 m³/s) at 1845 July 24, gage height, 0.42 ft (0.128 m); minimum daily, 0.01 ft³/s (0.001 m³/s) on many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								---	.01	.01	.01	.01
2								---	.01	.01	.02	.01
3								---	.01	.01	.02	.01
4								---	.01	.02	.02	.01
5								---	.01	.01	.01	.01
6								---	.01	.01	.01	.01
7								---	.01	.01	.02	.01
8								---	.01	.01	.01	.01
9								---	.01	.01	.02	.01
10								---	.01	.01	.02	.01
11								---	.01	.01	.01	.01
12								---	.01	.01	.02	.01
13								---	.01	.01	.01	.01
14								---	.01	.01	.01	.01
15								---	.01	.01	.02	.01
16								---	.01	.01	.02	.01
17								---	.01	.01	.02	.01
18								---	.01	.01	.01	.01
19								---	.01	.01	.02	.01
20								---	.02	.01	.03	.01
21								---	.01	.01	.02	.02
22								---	.01	.01	.02	.02
23								---	.01	.02	.02	.01
24								---	.01	.01	.01	.01
25								---	.01	.02	.01	.01
26								---	.01	.01	.02	.01
27								---	.01	.01	.01	.01
28								---	.01	.01	.01	.01
29								---	.01	.01	.01	.01
30								---	.01	.01	.01	.02
31								.01	---	.01	.01	---
TOTAL								---	.31	.34	.48	.33
MEAN								---	.010	.011	.015	.011
MAX								---	.02	.02	.03	.02
MIN								---	.01	.01	.01	.01
AC-FT								---	.6	.7	1.0	.7

07099235 TURKEY CREEK NEAR STONE CITY, CO--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.02	.01	.02	.01	.01	.01	.01	.02	.01	.07	.05	.04
2	.02	.01	.02	.01	.01	.01	.01	.02	.01	.07	.05	.04
3	.01	.01	.01	.01	.01	.01	.01	.02	.01	.07	.04	.04
4	.01	.01	.01	.01	.01	.01	.01	.02	.01	.07	.04	.04
5	.02	.01	.01	.01	.01	.01	.01	.01	.01	.07	.04	.04
6	.03	.01	.01	.01	.01	.01	.01	.01	.01	.07	.04	.04
7	.03	.01	.01	.01	.01	.01	.01	.01	.01	.06	.04	.04
8	.02	.01	.01	.01	.01	.01	.01	.01	.02	.06	.04	.03
9	.02	.01	.01	.01	.01	.01	.01	.01	.02	.06	.04	.03
10	.01	.01	.01	.01	.01	.01	.01	.01	.01	.06	.05	.03
11	.01	.01	.01	.01	.01	.01	.02	.01	.01	.07	.05	.03
12	.01	.01	.01	.01	.01	.01	.01	.01	.02	.07	.04	.03
13	.01	.01	.01	.01	.01	.01	.01	.01	.04	.07	.04	.03
14	.01	.01	.01	.01	.01	.02	.02	.01	.05	.07	.05	.04
15	.01	.01	.01	.01	.01	.02	.01	.01	.05	.06	.04	.03
16	.01	.02	.01	.01	.01	.02	.01	.01	.06	.06	.04	.03
17	.01	.01	.01	.01	.01	.02	.02	.01	.07	.06	.04	.03
18	.01	.01	.01	.01	.01	.02	.02	.01	.07	.06	.04	.03
19	.01	.01	.01	.01	.01	.02	.02	.01	.08	.06	.04	.04
20	.01	.01	.01	.01	.01	.02	.02	.01	.08	.06	.04	.04
21	.01	.01	.01	.01	.01	.02	.02	.01	.08	.06	.04	.04
22	.01	.01	.01	.01	.01	.04	.02	.01	.08	.06	.04	.04
23	.01	.01	.01	.01	.01	.03	.02	.01	.07	.07	.04	.04
24	.01	.01	.01	.01	.01	.02	.02	.01	.07	.08	.04	.04
25	.01	.01	.01	.01	.01	.02	.02	.01	.07	.06	.04	.04
26	.02	.01	.01	.01	.01	.02	.02	.01	.07	.06	.05	.03
27	.02	.01	.01	.01	.01	.02	.02	.01	.07	.06	.05	.04
28	.02	.01	.01	.01	.01	.01	.02	.01	.07	.06	.05	.04
29	.02	.01	.01	.01	---	.01	.02	.01	.07	.05	.04	.04
30	.02	.01	.01	.01	---	.01	.02	.01	.07	.05	.04	.03
31	.01	---	.01	.01	---	.01	---	.01	---	.05	.04	---
TOTAL	.45	.31	.33	.31	.28	.48	.46	.35	1.37	1.96	1.32	1.08
MEAN	.015	.010	.011	.010	.010	.015	.015	.011	.046	.063	.043	.036
MAX	.03	.02	.02	.01	.01	.04	.02	.02	.08	.08	.05	.04
MIN	.01	.01	.01	.01	.01	.01	.01	.01	.01	.05	.04	.03
AC-FT	.9	.6	.7	.6	.6	1.0	.9	.7	2.7	3.9	2.6	2.1

WTR YR 1979 TOTAL 8.70 MEAN .024 MAX .08 MIN .01 AC-FT 17

07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO

LOCATION.--Lat 38°16'15", long 104°43'30", in NE¼ sec.36, T.20 S., R.66 W., Pueblo County, Hydrologic Unit 11020002, at dam on Arkansas River 7 mi (11 km) west of Pueblo.

DRAINAGE AREA.--4,669 mi² (12,093 km²).

PERIOD OF RECORD.--January 1974 to current year.

GAGE.--Nonrecording gage. Datum of gage is National Geodetic Vertical Datum of 1929, (levels by Water and Power Resources Service); gage readings have been reduced to elevations NGVD.

REMARKS.--Reservoir is formed by concrete and earthfill dam. Storage began Jan. 9, 1974; dam completed in August 1975. Capacity, 357,700 acre-ft (441 hm³) at elevation 4,898.70 ft (1,493.124 m), crest of spillway. Dead storage, 3,730 acre-ft (4.60 hm³) below elevation 4,764.00 ft (1,452.067 m), invert of river outlet. Reservoir is terminal reservoir of the Fryingpan-Arkansas project and is used to provide flood control, municipal and industrial supplies, and to fulfill irrigation requirements in the Arkansas River valley. Figures given are total contents.

COOPERATION.--Records furnished by Water and Power Resources Service.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 93,120 acre-ft (115 hm³) Mar. 8, 1977, elevation, 4,831.05 ft (1,472.504 m); minimum since appreciable storage was attained, 22,680 acre-ft (28.0 hm³) Nov. 13, 1974, elevation, 4,790.50 ft (1,460.144 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 73,160 acre-ft (90.2 hm³) July 15, elevation, 4,822.10 ft (1,469.776 m); minimum, 30,800 acre-ft (38.0 hm³) Oct. 2, elevation, 4,797.05 ft (1,462.141 m).

CORRECTIONS.--The change in contents for calendar year 1977 is -43,680 acre-ft (54.104 hm³). This figure supersedes that published in the report for 1978.

MONTHEND ELEVATION, IN FEET NGVD, AND CONTENTS AT 2400, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

Date	Elevation	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	4,797.11	30,880	–
Oct. 31	4,797.21	31,010	+130
Nov. 30	4,801.73	37,210	+6,200
Dec. 31	4,809.27	48,880	+11,670
CAL YR 1978			+16,240
Jan. 31	4,814.34	57,800	+8,920
Feb. 28	4,819.30	67,400	+9,600
Mar. 31	4,820.09	69,000	+1,600
Apr. 30	4,818.82	66,440	-2,560
May 31	4,815.94	60,820	-5,620
June 30	4,818.76	66,320	+5,500
July 31	4,819.41	67,620	+1,300
Aug. 31	4,811.36	52,430	-15,190
Sept. 30	4,807.68	46,270	-6,160
WTR YR 1979			+15,390

07099400 ARKANSAS RIVER ABOVE PUEBLO, CO

LOCATION.--Lat 38°16'17", long 104°43'06", in NE¼NE¼ sec.36, T.20 S., R.66 W., Pueblo County, Hydrologic Unit 11020002, on left bank 450 ft (140 m) downstream from headgate of West Pueblo ditch, 0.4 mi (0.6 km) downstream from Pueblo Dam, and 7 mi (11 km) west of Pueblo.

DRAINAGE AREA.--4,670 mi² (12,095 km²).

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,740 ft (1,445 m), from topographic map. Prior to Mar. 23, 1967, at site 730 ft (220 m) upstream at datum 1.23 ft (0.375 m) higher. May 24, 1974, to Feb. 24, 1975, at site 2,000 ft (610 m) downstream at different datum.

REMARKS.--Records good. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, diversions above station for irrigation of about 88,000 acres (356 km²) and return flow from irrigated areas. Flow completely regulated by Pueblo Reservoir (station 07099350) since Jan. 9, 1974. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--8 years (water years 1966-73), 643 ft³/s (18.21 m³/s), 465,900 acre-ft/yr (574 hm³/yr), prior to completion of Pueblo Dam; 5 years (1975-79), 527 ft³/s (14.92 m³/s), 381,800 acre-ft/yr (471 hm³/yr) subsequent to completion of Pueblo Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,100 ft³/s (286 m³/s) Aug. 1, 1966, gage height, 9.4 ft (2.87 m), from floodmarks, present site and datum, from rating curve extended above 1,600 ft³/s (45 m³/s), on basis of slope-area measurement of peak flow; minimum daily, 28 ft³/s (0.79 m³/s) May 11, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,650 ft³/s (132 m³/s) June 15; maximum gage height, 6.54 ft (1.993 m) July 15; minimum daily discharge, 54 ft³/s (1.53 m³/s) Jan. 14, 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	81	82	57	62	55	56	271	943	3250	2870	937	535
2	75	101	57	61	56	112	264	992	2550	3070	734	605
3	70	110	57	61	56	268	247	1030	2430	2950	668	560
4	76	92	60	62	55	268	232	1030	2540	2790	640	540
5	87	90	60	58	55	229	223	979	2830	2730	615	595
6	116	84	60	58	55	182	202	823	3110	2570	640	565
7	134	79	60	57	55	160	198	766	3330	2330	766	530
8	138	81	60	57	55	144	210	766	4250	2210	841	472
9	136	84	60	57	56	144	285	766	4460	2070	1180	436
10	136	84	60	57	56	144	340	772	3100	1820	1180	505
11	130	84	60	56	56	144	250	540	1950	1790	1180	744
12	126	84	60	56	56	144	205	450	2120	2010	1120	739
13	122	118	60	55	56	142	205	409	2980	1970	1080	744
14	122	158	60	54	56	142	180	334	3580	1910	1130	458
15	122	140	60	54	56	144	142	144	4130	1930	1330	440
16	126	55	60	55	56	192	178	158	4250	2770	1920	110
17	134	55	60	55	56	238	208	160	3560	1830	1720	106
18	136	55	61	55	56	247	235	208	3740	1970	1270	103
19	136	55	61	56	56	282	250	257	3580	1730	1340	97
20	130	55	60	56	56	400	229	409	3750	1470	1200	138
21	101	56	60	56	56	445	178	931	3200	1460	1160	198
22	101	56	61	56	56	409	156	865	2890	1430	1180	210
23	128	56	61	56	56	306	154	931	2690	1410	1430	220
24	188	56	61	56	56	268	235	1470	2920	1350	1520	229
25	166	56	62	56	56	235	320	1690	3260	1330	1000	235
26	148	57	62	56	56	215	336	1960	1820	1340	907	241
27	150	57	62	56	57	244	332	2160	2780	1250	772	260
28	146	57	62	56	57	285	404	2480	3340	1070	620	285
29	120	57	62	56	---	320	931	3260	3220	1010	615	324
30	94	57	62	55	---	324	931	3580	2870	973	585	336
31	82	---	62	55	---	296	---	3680	---	955	515	---
TOTAL	3757	2311	1870	1756	1564	7129	8531	34943	94480	58368	31795	11560
MEAN	121	77.0	60.3	56.6	55.9	230	284	1127	3149	1883	1026	385
MAX	188	158	62	62	57	445	931	3680	4460	3070	1920	744
MIN	70	55	57	54	55	56	142	144	1820	955	515	97
AC-FT	7450	4580	3710	3480	3100	14140	16920	69310	187400	115800	63070	22930

CAL YR 1978 TOTAL 169234 MEAN 464 MAX 3750 MIN 51 AC-FT 335700
WTR YR 1979 TOTAL 258064 MEAN 707 MAX 4460 MIN 54 AC-FT 511900

07103700 FOUNTAIN CREEK NEAR COLORADO SPRINGS, CO

LOCATION.--Lat 38°51'17", long 104°52'39", in SE¼SW¼ sec.3, T.14 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on left bank 200 ft (61 m) upstream from diversion to city of Colorado Springs, 0.5 mi (0.8 km) east of bridge on U.S. Highway 24 near west city limits of Colorado Springs, and 1.0 mi (1.6 km) downstream from Sutherland Creek.

DRAINAGE AREA.--103 mi² (267 km²).

PERIOD OF RECORD.--April 1958 to current year.

GAGE.--Water-stage recorder and Parshall flume with overflow weirs. Altitude of gage is 6,110 ft (1,862 m), from topographic map.

REMARKS.--Records good except those for periods of no gage height record, which are poor. Natural flow of stream affected by storage reservoirs, power developments, diversions for irrigation and municipal use, and at times, transbasin diversion from Beaver Creek drainage and transmountain diversions from Colorado River basin. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--21 years, 11.7 ft³/s (0.331 m³/s), 8,480 acre-ft/yr (10.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,630 ft³/s (74.5 m³/s) Aug. 4, 1964, gage height, 5.27 ft (1.606 m), from rating curve extended above 190 ft³/s (5.4 m³/s), on basis of slope-area measurements at gage heights 3.87, 4.52, and 5.27 ft (1.180, 1.378, and 1.606 m); minimum daily, 2.0 ft³/s (0.057 m³/s) Jan. 24, 1969.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 416 ft³/s (11.8 m³/s) at 1645 Aug. 26, gage height, 3.89 ft (1.186 m); minimum daily, 3.9 ft³/s (0.11 m³/s) Oct. 8.

CORRECTIONS.--The date of the maximum discharge in WSP 1921, for water year 1962, was published in error. The correct date is September 19, 1962.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	4.4	7.2	4.0	4.0	5.0	9.3	11	38	21	9.3	16
2	4.6	4.5	6.8	4.0	4.0	5.0	8.7	15	58	15	6.3	16
3	4.7	4.4	5.2	4.0	4.0	4.7	21	13	39	12	5.3	14
4	5.8	4.6	7.4	4.0	4.3	4.5	11	12	38	13	5.1	14
5	5.1	4.9	7.2	4.0	4.6	5.0	13	13	38	17	4.5	14
6	6.1	5.2	5.8	4.0	5.0	5.7	13	13	37	20	4.5	14
7	5.7	5.4	5.0	4.0	5.3	6.3	13	14	45	17	7.0	14
8	3.9	5.3	4.5	4.0	5.4	6.7	13	14	84	15	8.3	14
9	4.8	5.2	4.5	4.0	5.5	6.6	14	14	104	12	7.3	14
10	4.2	5.2	5.0	4.3	5.5	5.7	17	13	110	11	12	13
11	4.0	5.1	5.5	4.5	5.9	5.9	20	13	91	10	14	16
12	7.8	6.1	6.0	4.5	5.8	6.2	12	13	70	9.5	8.7	15
13	4.6	5.8	7.0	4.5	6.3	5.2	12	11	63	9.0	8.4	16
14	4.4	5.0	7.0	4.5	5.9	4.8	14	11	49	8.5	20	23
15	4.4	4.7	7.0	4.5	4.7	4.8	17	11	43	10	14	18
16	5.4	4.8	6.5	4.5	4.2	4.9	21	11	41	14	11	16
17	5.0	4.9	5.5	4.7	4.6	4.7	47	12	38	20	15	15
18	4.3	5.3	5.0	4.8	4.6	5.1	53	11	42	30	12	15
19	4.3	5.4	5.5	5.3	4.6	5.8	25	15	44	23	10	14
20	4.2	5.5	6.0	5.5	4.5	6.2	21	45	36	18	8.8	12
21	5.3	5.8	6.0	5.5	4.4	7.6	19	25	35	16	9.7	14
22	12	6.8	6.0	5.5	4.3	7.2	18	27	34	14	9.5	12
23	6.0	5.5	6.0	5.5	4.3	7.7	19	24	35	12	9.0	12
24	7.2	5.7	6.0	5.5	4.3	8.0	20	23	36	12	8.8	12
25	5.7	6.5	6.0	5.5	4.3	8.8	19	32	33	16	10	12
26	5.9	5.4	5.4	4.8	4.5	10	17	34	30	14	19	12
27	4.8	4.2	5.2	4.5	4.5	9.9	15	33	28	13	9.2	11
28	4.8	5.2	5.2	4.2	4.5	11	14	33	26	14	8.2	12
29	4.5	5.5	5.2	4.0	---	11	12	34	24	20	6.9	12
30	4.4	7.1	5.2	4.0	---	9.8	11	62	27	14	6.5	11
31	4.6	---	4.5	4.0	---	9.5	---	47	---	11	9.8	---
TOTAL	163.9	159.4	180.3	140.6	133.8	209.3	539.0	659	1416	461.0	298.1	423
MEAN	5.29	5.31	5.82	4.54	4.78	6.75	18.0	21.3	47.2	14.9	9.62	14.1
MAX	12	7.1	7.4	5.5	6.3	11	53	62	110	30	20	23
MIN	3.9	4.2	4.5	4.0	4.0	4.5	8.7	11	24	8.5	4.5	11
AC-FT	325	316	358	279	265	415	1070	1310	2810	914	591	839

CAL YR 1978 TOTAL 2582.6 MEAN 7.08 MAX 22 MIN 3.4 AC-FT 5120
WTR YR 1979 TOTAL 4783.4 MEAN 13.1 MAX 110 MIN 3.9 AC-FT 9490

NOTE.--NO GAGE-HEIGHT RECORD DEC. 7 TO FEB. 10.

07103747 MONUMENT CREEK AT PALMER LAKE, CO

LOCATION.--Lat 39°06'07", long 104°53'27", in SE¼SE¼ sec.9, T.11 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on right bank 0.9 mi (1.4 km) upstream from Monument Lake, 1.5 mi (7.4 km) downstream from North Monument Creek, and 1.9 mi (3.1 km) southeast of town of Palmer Lake.

DRAINAGE AREA.--25.9 mi² (67.1 km²).

PERIOD OF RECORD.--February 1977 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,950 ft (2,118 m), from topographic map. Record not equivalent to former downstream site.

REMARKS.--Records good except those for winter period and those above 25 ft³/s (0.708 m³/s), which are fair. Storage and diversions above station for municipal supply of Palmer Lake. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 55 ft³/s (1.56 m³/s) at 0300 Apr. 19, 1979, gage height, 1.49 ft (0.454 m) from rating curve extended above 25 ft³/s (0.71 m³/s); minimum daily, 0.10 ft³/s (0.003 m³/s) many days in 1978-79.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 55 ft³/s (1.56 m³/s) at 0300 Apr. 19, gage height, 1.49 ft (0.454 m) from rating curve extended above 25 ft³/s (0.71 m³/s); minimum daily, 0.10 ft³/s (0.003 m³/s) Feb. 9, 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.12	.37	.39	.19	.21	.38	1.5	12	8.8	3.3	.80	.42
2	.12	.37	.36	.18	.20	.36	1.5	14	8.1	2.4	.65	.47
3	.13	.38	.33	.16	.20	.36	1.5	13	7.1	2.2	.56	.41
4	.13	.38	.33	.15	.21	.35	1.6	12	6.2	2.1	.40	.36
5	.14	.38	.33	.15	.20	.35	1.7	15	5.8	2.0	.34	.33
6	.15	.39	.33	.15	.19	.35	3.0	14	5.1	1.9	.27	.31
7	.15	.38	.33	.15	.13	.34	5.8	15	5.7	1.5	.24	.33
8	.15	.38	.33	.15	.11	.34	8.7	15	9.9	1.2	.24	.29
9	.15	.39	.33	.15	.10	.34	11	14	14	1.1	.33	.29
10	.15	.39	.36	.15	.10	.37	10	14	15	.99	.45	.28
11	.15	.42	.39	.15	.17	.48	7.4	12	13	.82	.39	.29
12	.15	.44	.39	.15	.19	.44	8.2	11	13	.72	.35	.33
13	.15	.39	.39	.15	.26	.40	7.9	9.8	11	.60	.36	.34
14	.15	.38	.39	.15	.39	.47	9.7	9.2	10	.52	.57	.58
15	.15	.39	.37	.19	.45	.40	16	9.1	9.6	.56	.55	.38
16	.18	.39	.37	.19	.54	.40	24	8.9	8.5	.58	.50	.34
17	.18	.39	.39	.21	.42	.38	27	8.9	7.5	1.7	.57	.33
18	.18	.37	.42	.23	.44	.50	38	8.4	6.8	3.2	.82	.34
19	.19	.37	.45	.26	.43	.48	41	8.2	6.2	3.3	.76	.35
20	.20	.38	.45	.29	.39	.40	35	8.2	5.5	2.3	.72	.35
21	.21	.35	.45	.30	.40	.40	27	9.5	4.9	1.9	.65	.40
22	.27	.41	.43	.32	.44	.40	25	8.7	4.4	1.7	.62	.44
23	.25	.33	.40	.31	.44	.40	28	7.7	4.9	1.3	.60	.44
24	.25	.34	.38	.26	.40	.40	32	7.8	5.5	1.2	.60	.42
25	.27	.37	.35	.25	.35	.40	32	7.1	4.9	1.4	.67	.51
26	.28	.38	.38	.25	.29	.42	26	7.3	4.1	1.2	.64	.50
27	.28	.41	.38	.24	.35	.47	18	6.0	3.3	1.0	.54	.44
28	.32	.38	.30	.22	.39	1.1	16	5.8	3.7	.99	.49	.44
29	.34	.40	.27	.23	---	1.8	14	5.5	4.1	1.0	.55	.44
30	.35	.38	.24	.21	---	1.7	13	6.3	3.9	.99	.48	.38
31	.36	---	.21	.21	---	1.5	---	8.7	---	.94	.46	---
TOTAL	6.25	11.48	11.22	6.35	8.39	16.88	491.5	312.1	220.5	46.61	16.17	11.53
MEAN	.20	.38	.36	.20	.30	.54	16.4	10.1	7.35	1.50	.52	.38
MAX	.36	.44	.45	.32	.54	1.8	41	15	15	3.3	.82	.58
MIN	.12	.33	.21	.15	.10	.34	1.5	5.5	3.3	.52	.24	.28
AC-FT	12	23	22	13	17	33	975	619	437	92	32	23

CAL YR 1978 TOTAL 606.68 MEAN 1.66 MAX 13 MIN .12 AC-FT 1200
WTR YR 1979 TOTAL 1158.98 MEAN 3.18 MAX 41 MIN .10 AC-FT 2300

07103800 WEST MONUMENT CREEK AT U.S. AIR FORCE ACADEMY, CO

LOCATION.--Lat 38°58'14", long 104°54'08", in SW¼SW¼ sec.28, T.12 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on left bank 500 ft (150 m) upstream from diversion to city of Colorado Springs water-treatment plant, 2.7 mi (4.3 km) south of U.S. Air Force Academy chapel, and 4.4 mi (7.1 km) upstream from mouth.

DRAINAGE AREA.--14.9 mi² (38.6 km²).

PERIOD OF RECORD.--May 1970 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 7,180 ft (2,188 m), from topographic map.

REMARKS.--Records good except those for winter period, which are fair. Natural flow of stream affected by transmountain diversions from Colorado River basin, storage reservoirs, and operation of water-supply system. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--9 years, 2.48 ft³/s (0.070 m³/s), 1,800 acre-ft/yr (2.22 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47 ft³/s (1.33 m³/s) May 20, 1970, gage height, 2.69 ft (0.820 m); maximum gage height, 3.31 ft (1.009 m) Dec. 22, 1976 (backwater from ice); no flow on many days in 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8.8 ft³/s (0.25 m³/s) at 1245 June 6, gage height, 1.74 ft (0.530 m); minimum daily discharge, 0.02 ft³/s (0.001 m³/s) Oct. 1, 5, 6, 10, 11, 16-18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.02	.09	.07	.10	.10	.10	.56	2.6	2.8	1.3	.55	.25
2	.03	.09	.06	.10	.10	.10	.50	2.6	3.1	1.1	.37	.25
3	.04	.09	.06	.10	.10	.10	.56	2.4	3.2	1.0	.21	.24
4	.03	.10	.06	.10	.10	.10	.45	2.6	3.2	1.1	.22	.18
5	.02	.09	.06	.10	.10	.10	.63	2.6	3.0	.97	.20	.18
6	.02	.09	.07	.10	.10	.10	1.0	2.3	3.1	.93	.18	.19
7	.03	.09	.08	.10	.10	.10	1.6	2.3	3.1	.87	.18	.20
8	.03	.08	.08	.10	.10	.10	2.0	2.2	3.7	.80	.19	.17
9	.03	.08	.08	.10	.10	.10	1.8	2.1	4.0	.73	.22	.16
10	.02	.10	.08	.10	.10	.10	1.6	2.0	4.0	.64	.25	.14
11	.02	.09	.08	.10	.10	.10	1.6	2.0	4.2	.60	.28	.20
12	.03	.10	.08	.10	.10	.10	1.8	1.8	4.0	.58	.21	.22
13	.05	.09	.08	.10	.10	.10	1.9	1.8	3.7	.52	.21	.21
14	.04	.09	.08	.10	.10	.10	2.0	1.8	3.6	.51	.45	.42
15	.03	.08	.08	.10	.10	.10	2.6	1.8	3.4	.48	.46	.29
16	.02	.07	.08	.10	.10	.10	3.0	1.6	3.1	.49	.36	.23
17	.02	.06	.08	.10	.10	.10	3.1	1.6	3.0	.52	.36	.19
18	.02	.06	.09	.10	.10	.10	3.4	1.6	2.7	.59	.60	.18
19	.03	.06	.09	.10	.10	.10	3.4	1.6	2.8	.54	.68	.18
20	.02	.06	.09	.10	.10	.11	3.4	1.8	3.6	.44	.56	.20
21	.03	.07	.09	.10	.10	.12	3.4	2.1	2.1	.41	.51	.29
22	.29	.06	.09	.10	.10	.12	3.4	1.8	1.8	.39	.50	.23
23	.14	.06	.09	.10	.10	.12	3.7	1.8	2.0	.35	.53	.19
24	.18	.06	.09	.10	.10	.20	3.7	1.8	2.3	.47	.47	.20
25	.24	.08	.09	.10	.10	.35	3.4	1.8	1.8	.43	.59	.19
26	.15	.08	.09	.10	.10	.45	3.2	2.0	1.6	.49	.49	.19
27	.13	.09	.09	.10	.10	.50	3.1	2.0	1.6	.54	.44	.16
28	.11	.08	.09	.10	.10	.77	2.8	1.8	1.4	.51	.40	.16
29	.10	.08	.10	.10	---	.93	2.7	1.8	1.3	.48	.34	.15
30	.10	.07	.10	.10	---	.77	2.6	2.3	1.4	.51	.30	.15
31	.10	---	.10	.10	---	.70	---	2.7	---	.60	.28	---
TOTAL	2.12	2.39	2.55	3.10	2.80	7.04	68.90	63.0	84.6	19.89	11.59	6.19
MEAN	.068	.080	.082	.10	.10	.23	2.30	2.03	2.82	.64	.37	.21
MAX	.29	.10	.10	.10	.10	.93	3.7	2.7	4.2	1.3	.68	.42
MIN	.02	.06	.06	.10	.10	.10	.45	1.6	1.3	.35	.18	.14
AC-FT	4.2	4.7	5.1	6.1	5.6	14	137	125	168	39	23	12

CAL YR 1978 TOTAL 100.82 MEAN .28 MAX 2.3 MIN .02 AC-FT 200
WTR YR 1979 TOTAL 274.17 MEAN .75 MAX 4.2 MIN .02 AC-FT 544

07103950 KETTLE CREEK NEAR BLACK FOREST, CO

LOCATION.--Lat 39°00'14", long 104°44'21", in NE¼SE¼ sec.14, T.12 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on right bank 13 ft (4 m) downstream from bridge on Milan Rd., 1.2 mi (1.9 km) downstream from Burgess Creek, and 2.2 mi (3.5 km) southwest of Black Forest.

DRAINAGE AREA.--9.01 mi^2 (23.34 km^2).

PERIOD OF RECORD.--May 1976 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,980 ft (2,130 m), from topographic map.

REMARKS.--Records good except those above 3 ft^3/s (0.08 m^3/s) and those for periods of no gage-height record, which are poor. No known diversion above station. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 99 ft^3/s (2.80 m^3/s) July 24, 1977, gage height, 1.80 ft (0.549 m), from rating curve extended above 3 ft^3/s (0.08 m^3/s); no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5 ft^3/s (0.19 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
May 22	1730	7.2	0.20	1.29	0.393	May 28	1730	50	1.42	1.67	0.509
May 25	1500	*76	2.15	1.80	0.549						

No flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.40	.98	6.0	2.7	1.5	.71
2	.00	.00	.00	.00	.00	.00	.42	1.9	4.5	2.5	1.2	.84
3	.00	.00	.00	.00	.00	.00	.44	2.2	3.5	2.3	.84	.79
4	.00	.00	.00	.00	.00	.00	.46	1.9	3.2	2.0	.64	.96
5	.00	.00	.00	.00	.00	.00	.50	1.4	2.9	1.8	.74	.74
6	.00	.00	.00	.00	.00	.00	.60	1.1	2.6	1.7	.74	.55
7	.00	.00	.00	.00	.00	.00	.70	1.1	2.5	1.5	.64	.44
8	.00	.00	.00	.00	.00	.00	.80	1.2	3.0	1.4	.64	.38
9	.00	.00	.00	.00	.00	.00	1.1	1.2	4.0	1.2	.84	.46
10	.00	.00	.00	.00	.00	.00	1.3	1.2	3.5	1.1	1.1	.29
11	.00	.00	.00	.00	.00	.00	1.1	1.4	2.8	1.0	.98	.35
12	.00	.00	.00	.00	.00	.00	1.0	1.4	2.4	1.0	.59	.28
13	.00	.00	.00	.00	.00	.00	.90	1.0	2.0	1.0	.56	.29
14	.00	.00	.00	.00	.00	.00	1.0	.70	1.8	1.0	1.1	.49
15	.00	.00	.00	.00	.00	.00	1.1	.82	1.6	1.0	1.4	.45
16	.00	.00	.00	.00	.00	.00	1.3	.78	1.5	1.1	.72	.29
17	.00	.00	.00	.00	.00	.02	1.5	.57	1.4	2.5	.38	.29
18	.00	.00	.00	.00	.00	.03	1.8	.44	1.3	3.5	.64	.31
19	.00	.00	.00	.00	.00	.05	2.0	.60	1.2	4.0	.85	.40
20	.00	.00	.00	.00	.00	.10	1.8	1.7	1.2	3.0	1.2	.32
21	.00	.00	.00	.00	.00	.15	1.5	2.3	1.1	2.0	.90	.39
22	.00	.00	.00	.00	.00	.30	1.4	2.5	1.0	1.5	.83	.35
23	.00	.00	.00	.00	.00	.40	1.5	2.4	1.0	1.3	1.0	.26
24	.00	.00	.00	.00	.00	.45	1.5	1.8	2.0	1.7	.96	.34
25	.00	.00	.00	.00	.00	.50	1.5	5.4	3.5	2.3	1.1	.27
26	.00	.00	.00	.00	.00	.50	1.3	2.2	5.0	2.5	1.6	.23
27	.00	.00	.00	.00	.00	.48	.97	2.0	4.5	1.9	2.1	.17
28	.00	.00	.00	.00	.00	.45	1.1	9.9	4.0	1.5	1.3	.15
29	.00	.00	.00	.00	---	.43	1.1	7.0	3.3	1.3	.88	.16
30	.00	.00	.00	.00	---	.41	.89	4.0	3.0	1.5	.86	.15
31	.00	---	.00	.00	---	.40	---	5.5	---	1.7	1.1	---
TOTAL	.00	.00	.00	.00	.00	4.67	32.98	68.59	81.3	56.5	29.93	12.10
MEAN	.000	.000	.000	.000	.000	.15	1.10	2.21	2.71	1.82	.97	.40
MAX	.00	.00	.00	.00	.00	.50	2.0	9.9	6.0	4.0	2.1	.96
MIN	.00	.00	.00	.00	.00	.00	.40	.44	1.0	1.0	.38	.15
AC-FT	.00	.00	.00	.00	.00	9.3	65	136	161	112	59	24

CAL YR 1978 TOTAL 17.77 MEAN .049 MAX .49 MIN .00 AC-FT 35
WTR YR 1979 TOTAL 286.07 MEAN .78 MAX 9.9 MIN .00 AC-FT 567

NOTE.--NO GAGE-HEIGHT RECORD MAR. 1 TO APR. 25, MAY 29 TO AUG. 1.

07104000 MONUMENT CREEK AT PIKEVIEW, CO

LOCATION.--Lat 38°55'04", long 104°49'05", in NW¼SE¼ sec.18, T.13 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on right bank at downstream side of abandoned bridge at northeast edge of Pikeview, 600 ft (180 m) upstream from unnamed tributary, 1,200 ft (370 m) upstream from bridge on U.S. Interstate Highway I-25, and 0.7 mi (1.1 km) downstream from Dry Creek.

DRAINAGE AREA.--204 mi² (528 km²).

PERIOD OF RECORD.--October 1938 to September 1949, January 1976 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6,203.26 ft (1,890.754 m) above mean sea level. September 1938 to October 1949, nonrecording gage at same site at datum 0.10 ft (0.030 m) lower.

REMARKS.--Records good except those December through February, which are poor. Natural flow of stream affected by storage reservoirs, power developments, diversions for irrigation, municipal use and return flow from irrigation, and sewage-effluent discharge. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--14 years (water years 1939-49, 1977-79), 23.4 ft³/s (0.663 m³/s), 16,950 acre-ft/yr (20.9 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,290 ft³/s (36.5 m³/s) July 9, 1978, gage height, 4.61 ft (1.405 m), from rating curve extended above 100 ft³/s (2.8 m³/s), on basis of slope-area measurement of peak flow; no flow July 24, 1939.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 30, 1935, reached a stage of about 14 ft (4.3 m) present datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 831 ft³/s (23.5 m³/s) at 1400 May 25, gage height, 3.91 ft (1.192 m), from rating curve extended above 100 ft³/s (2.8 m³/s), on basis of slope-area measurement of peak flow; minimum daily, 0.90 ft³/s (0.025 m³/s) Oct. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	4.4	4.5	3.0	3.0	16	19	20	41	21	7.6	4.1
2	1.4	4.0	4.9	3.0	3.3	15	18	23	40	20	8.0	3.8
3	1.5	4.7	4.2	3.0	4.0	14	17	24	41	18	9.6	3.8
4	1.3	4.1	3.8	3.0	4.5	17	19	20	40	29	9.7	3.6
5	1.5	4.3	3.2	3.0	5.0	15	19	21	42	20	8.7	3.3
6	1.6	3.6	3.0	3.0	5.5	15	17	22	43	18	7.8	2.9
7	1.6	3.1	3.0	3.0	6.0	14	21	20	45	16	7.7	2.9
8	1.2	3.1	3.0	3.0	6.5	16	20	22	63	14	7.4	2.6
9	1.5	3.5	3.0	3.0	7.5	15	23	21	69	14	8.1	2.6
10	1.6	3.5	3.3	3.5	9.0	16	29	23	59	14	8.9	2.7
11	1.4	3.4	4.0	5.0	10	19	35	22	53	14	9.6	3.6
12	1.2	3.4	4.0	5.0	12	20	31	19	51	28	6.9	2.4
13	1.3	3.2	4.0	5.0	14	18	35	19	50	11	9.1	2.2
14	.90	4.1	3.5	4.5	16	17	38	19	45	10	20	10
15	2.0	5.1	3.5	4.5	16	16	48	18	44	6.2	19	5.1
16	1.6	3.9	3.8	5.5	15	15	57	18	44	5.5	13	3.9
17	1.6	7.1	4.3	6.0	13	18	63	19	44	30	22	4.1
18	1.3	4.5	4.5	6.0	13	20	70	18	38	44	13	3.9
19	1.4	5.1	4.5	6.0	15	21	72	21	36	24	14	4.2
20	1.5	4.2	4.5	6.0	16	20	67	42	34	16	9.0	4.7
21	1.6	4.5	4.5	6.0	16	19	64	30	30	13	9.8	6.9
22	4.5	4.8	4.5	6.0	16	13	62	25	26	11	9.4	5.0
23	2.2	4.1	4.5	6.0	16	16	57	25	71	7.5	8.8	5.1
24	2.4	4.0	4.5	6.0	16	21	58	25	98	7.6	8.9	5.6
25	3.9	5.5	4.5	6.0	16	21	48	91	34	24	10	6.6
26	3.8	4.8	4.3	5.5	16	20	36	41	25	19	12	6.0
27	3.4	4.5	4.3	4.5	16	21	26	33	22	12	9.3	5.9
28	4.3	4.5	4.3	3.5	16	25	22	33	22	9.2	8.2	6.9
29	4.4	4.5	4.0	3.0	---	24	20	51	21	7.3	7.3	7.3
30	4.1	4.5	3.5	3.0	---	23	21	64	21	10	6.4	7.6
31	3.6	---	3.0	3.0	---	21	---	60	---	8.3	5.2	---
TOTAL	67.40	128.0	122.4	136.5	322.3	561	1132	909	1292	501.6	316.4	139.3
MEAN	2.17	4.27	3.95	4.40	11.5	18.1	37.7	29.3	43.1	16.2	10.2	4.64
MAX	4.5	7.1	4.9	6.0	16	25	72	91	98	44	22	10
MIN	.90	3.1	3.0	3.0	3.0	13	17	18	21	5.5	5.2	2.2
AC-FT	134	254	243	271	639	1110	2250	1800	2560	995	628	276

CAL YR 1978 TOTAL 2863.10 MEAN 7.84 MAX 85 MIN .90 AC-FT 5680
WTR YR 1979 TOTAL 5627.90 MEAN 15.4 MAX 98 MIN .90 AC-FT 11160

07104500 TEMPLETON GAP FLOODWAY AT COLORADO SPRINGS, CO

LOCATION.--Lat 38°53'17", long 104°49'01", in SE¼ sec.30, T.13 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on left bank 75 ft (23 m) upstream from head of concrete flume, 400 ft (120 m) upstream from bridge on U.S. Highways 85 and 87, and 0.8 mi (1.3 km) north of Colorado Springs.

DRAINAGE AREA.--8.73 mi² (22.61 km²).

PERIOD OF RECORD.--July 1951 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 6,200 ft (1,890 m), from topographic map.

REMARKS.--Records good except those for the summer, which are poor. This is an artificial channel constructed to divert flood flows from normally dry channels around Colorado Springs during periods of heavy rainfall.

AVERAGE DISCHARGE.--28 years, 0.38 ft³/s (0.011 m³/s), 275 acre-ft/yr (339,000 m³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,090 ft³/s (30.9 m³/s) July 24, 1970, gage height, 3.45 ft (1.052 m), from rating curve based on computation of flow at critical depth at gage heights 1.3, 1.4, 1.8, and 3.0 ft (0.40, 0.43, 0.55, and 0.91 m); no flow most of time.

EXTREMES FOR CURRENT YEAR.--No flow entire year.

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CAL YR 1978  TOTAL 247.43   MEAN .68    MAX 83      MIN  .00   AC-FT  491
WTR YR 1979  TOTAL   0.00   MEAN .000   MAX   .00   MIN  .00   AC-FT     .00
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07105500 FOUNTAIN CREEK AT COLORADO SPRINGS, CO

LOCATION.--Lat 38°48'59", long 104°49'20", in NE¼SW¼ sec.19, T.14 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on left bank 31 ft (9.4 m) upstream from bridge on Nevada Ave. in Colorado Springs, 100 ft (30 m) downstream from mouth of Cheyenne Creek, and 1.3 mi (2.1 km) downstream from Monument Creek.

DRAINAGE AREA.--392 mi² (1,015 km²).

PERIOD OF RECORD.--October 1921 to September 1924, January 1976 to current year. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Altitude of gage is 5,900 ft (1,800 m), from topographic map. Prior to Oct. 1, 1972, nonrecording gage at same site at different datum.

REMARKS.--Records good except those for winter period which are fair and those above 2,500 ft³/s (70.8 m³/s), which are poor. Natural flow of stream affected by storage reservoirs, power developments, ground-water withdrawals, diversions for irrigation and municipal use, and return flow from irrigated areas. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,000 ft³/s (170 m³/s) July 29, 1978, gage height, 7.15 ft (2.179 m), from rating curve extended above 2,400 ft³/s (68.0 m³/s); minimum daily, 2.0 ft³/s (0.06 m³/s) Aug. 19, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,130 ft³/s (88.6 m³/s) at 1600 May 25, gage height, 5.40 ft (1.646 m), from rating curve extended above 2,400 ft³/s (68.0 m³/s); minimum daily, 2.6 ft³/s (0.07 m³/s) Feb. 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.3	12	15	4.5	4.0	8.5	16	53	115	60	58	21
2	5.2	16	8.5	4.0	5.0	4.4	20	88	122	90	40	23
3	4.7	14	10	3.5	5.5	5.4	60	79	122	84	33	27
4	4.7	13	21	3.5	5.8	5.8	128	52	94	86	25	10
5	4.2	12	16	3.5	7.4	9.0	63	54	71	60	17	6.6
6	4.2	12	8.0	3.2	6.6	6.8	26	48	71	103	19	21
7	3.7	13	7.0	3.2	15	6.7	32	51	95	63	21	17
8	4.7	9.3	7.0	3.2	5.8	9.4	38	54	200	49	27	13
9	7.4	9.0	7.0	3.2	13	11	44	54	168	33	14	14
10	9.0	7.7	7.0	4.6	5.2	8.6	107	43	124	26	52	15
11	11	13	8.0	4.7	5.2	7.2	72	36	82	22	74	48
12	13	18	9.5	4.2	6.6	7.5	23	30	81	16	40	35
13	5.8	18	13	20	11	6.4	15	24	88	16	11	27
14	4.7	11	27	15	7.4	7.0	21	22	65	9.5	230	89
15	7.4	12	23	10	3.2	6.6	35	21	52	23	158	27
16	12	9.0	34	5.8	2.6	7.0	42	27	45	40	113	18
17	14	8.2	19	5.6	3.0	5.1	74	33	42	100	113	13
18	11	7.4	18	3.6	3.5	12	92	29	40	132	81	11
19	10	9.1	22	2.9	4.0	27	108	64	39	81	92	10
20	9.0	9.0	9.1	3.2	4.5	57	84	337	38	64	78	8.2
21	38	7.5	4.4	5.0	4.7	104	95	88	37	47	45	10
22	158	7.5	6.8	4.2	4.2	52	84	95	36	51	28	10
23	26	8.1	8.1	6.0	4.2	66	88	50	50	43	23	6.6
24	40	8.1	10	5.0	5.8	48	113	60	110	82	26	6.6
25	30	21	8.0	4.5	5.8	29	100	500	80	51	45	10
26	9.0	11	7.0	4.5	11	19	91	202	60	55	70	10
27	5.2	9.0	6.5	4.0	8.2	20	77	115	50	91	27	10
28	9.0	12	7.0	3.5	7.4	24	77	73	45	37	17	10
29	19	13	8.0	3.5	---	23	62	113	40	26	21	10
30	17	13	6.0	3.5	---	17	61	195	70	102	8.2	10
31	11	---	5.0	3.5	---	17	---	137	---	29	11	---
TOTAL	514.2	342.9	365.9	158.6	175.6	637.4	1948	2827	2332	1771.5	1617.2	547.0
MEAN	16.6	11.4	11.8	5.12	6.27	20.6	64.9	91.2	77.7	57.1	52.2	18.2
MAX	158	21	34	20	15	104	128	500	200	132	230	89
MIN	3.7	7.4	4.4	2.9	2.6	4.4	15	21	36	9.5	8.2	6.6
AC-FT	1020	680	726	315	348	1260	3860	5610	4630	3510	3210	1080

CAL YR 1978 TOTAL 8459.0 MEAN 23.2 MAX 470 MIN 2.0 AC-FT 16780
WTR YR 1979 TOTAL 13237.3 MEAN 36.3 MAX 500 MIN 2.6 AC-FT 26260

NOTE.--NO GAGE-HEIGHT RECORD MAY 21-25.

07105800 FOUNTAIN CREEK AT SECURITY, CO

LOCATION.--Lat 38°43'46", long 104°44'00", in SW¼ sec.24, T.15 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on right bank 980 ft (300 m) downstream from Carson Road bridge, 1.0 mi (1.6 km) southwest of South Security School, 3.5 mi (5.6 km) northeast of Fountain, and 5.0 mi (8.0 km) upstream from Jimmy Camp Creek.

DRAINAGE AREA.--495 mi^2 (1,282 km^2).

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,640 ft (1,719 m), from topographic map. Prior to Oct. 26, 1966, at site 1,040 ft (320 m) upstream at datum 6.00 ft (1.829 m) higher. Oct. 26, 1966, to July 18, 1972, at site 980 ft (300 m) upstream at datum 6.00 ft (1.829 m) higher.

REMARKS.--Records fair Oct. 1-21, Mar. 21-Apr. 29, July 3-Sept. 30, and are poor the remainder of the year. Natural flow of stream affected by storage reservoirs, power developments, ground-water withdrawals, diversions for irrigation of about 5,100 acres (21 km^2) and municipal use, and return flow from irrigated areas. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--15 years, 54.7 ft^3/s (1.549 m^3/s), 39,630 acre-ft/yr (48.9 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,000 ft^3/s (708 m^3/s) July 24, 1965, gage height, 11.30 ft (3.444 m), site and datum then in use, from floodmarks, from rating curve extended above 2,900 ft^3/s (82 m^3/s), on basis of slope-area measurement of peak flow; minimum daily, 1.9 ft^3/s (0.054 m^3/s) Mar. 1, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,680 ft^3/s (75.9 m^3/s) May 25, gage height, 4.63 ft (1.411 m); minimum daily, 10 ft^3/s (0.28 m^3/s) Jan. 2-7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	45	25	11	13	60	86	70	140	90	27	37
2	33	50	20	10	15	58	81	110	160	120	23	43
3	34	46	20	10	18	56	98	100	160	45	23	52
4	34	47	30	10	20	56	145	70	130	37	21	54
5	34	47	20	10	18	60	111	70	100	31	20	49
6	36	47	16	10	23	50	134	65	100	46	23	42
7	40	47	15	10	26	52	160	70	140	54	22	47
8	41	45	15	11	26	50	157	75	250	34	23	45
9	42	40	15	14	26	70	142	75	180	29	26	30
10	34	40	15	16	30	60	157	70	130	26	26	34
11	36	50	15	15	32	55	177	60	120	26	25	48
12	37	55	15	25	35	50	127	55	120	25	19	44
13	37	55	45	40	40	45	161	50	140	23	18	41
14	38	45	40	30	56	42	154	45	110	22	98	82
15	37	45	60	25	45	40	162	40	90	24	98	47
16	40	40	50	20	30	40	146	55	85	26	64	47
17	40	35	40	18	35	50	131	70	80	66	63	38
18	36	30	40	15	40	60	131	65	75	193	80	31
19	39	28	50	18	50	80	140	90	75	39	60	33
20	40	35	40	20	55	120	135	500	70	27	60	36
21	41	35	30	23	60	191	140	120	65	27	56	37
22	180	28	23	19	50	118	125	122	65	18	55	39
23	70	25	20	25	45	179	136	113	60	32	55	42
24	90	25	25	18	50	96	118	104	200	90	57	42
25	60	40	23	15	60	88	108	700	150	24	60	38
26	35	30	17	14	70	83	[illegible]	250	100	23	77	39
27	25	23	16	13	80	84	81	170	90	30	52	40
28	40	30	15	13	65	93	78	120	80	26	53	43
29	60	30	14	13	---	95	75	170	70	24	42	42
30	50	33	13	13	---	75	70	250	100	37	37	37
31	40	---	12	13	---	76	---	180	---	29	35	---
TOTAL	1432	1171	794	517	1113	2332	3772	4104	3435	1343	1398	1279
MEAN	46.2	39.0	25.6	16.7	39.8	75.2	126	132	115	43.3	45.1	42.6
MAX	180	55	60	40	80	191	177	700	250	193	98	82
MIN	25	23	12	10	13	40	70	40	60	18	18	30
AC-FT	2840	2320	1570	1030	2210	4630	7480	8140	6810	2660	2770	2540

CAL YR 1978 TOTAL 14208 MEAN 38.9 MAX 758 MIN 11 AC-FT 28180
WTR YR 1979 TOTAL 22690 MEAN 62.2 MAX 700 MIN 10 AC-FT 45010

NOTE.--NO GAGE-HEIGHT RECORD NOV. 7 TO DEC. 22, DEC 29 TO FEB. 28, APR. 30 TO JULY 2.

07105900 JIMMY CAMP CREEK AT FOUNTAIN, CO

LOCATION.--Lat 38°41'04", long 104°41'17", in NW¼SE¼ sec.5, T.16 S., R.65 W., El Paso County, Hydrologic Unit 11020003, on right bank at downstream side of bridge on county road, 1,000 ft (300 m) east of Fountain, and 1.5 mi (2.4 km) upstream from mouth.

DRAINAGE AREA.--65.6 mi² (169.9 km²).

PERIOD OF RECORD.--January 1976 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,530 ft (1,686 m), from topographic map.

REMARKS.--Records fair except those for winter period, which are poor. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,930 ft³/s (54.7 m³/s) Aug. 1, 1976, gage height, 4.14 ft (1.262 m), from floodmarks; minimum daily, 0.20 ft³/s (0.006 m³/s) July 18, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 242 ft³/s (6.85 m³/s) at 1700 Aug. 26, gage height, 2.14 ft (0.652 m); minimum daily, 0.60 ft³/s (0.017 m³/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.70	1.5	1.7	1.1	1.1	1.1	4.2	1.5	1.0	1.3	1.9	2.2
2	.60	1.5	1.5	1.0	1.1	1.3	5.2	2.0	1.0	1.3	1.7	2.2
3	.70	1.5	1.2	1.0	1.1	1.5	2.0	2.0	2.6	1.3	1.7	2.0
4	1.1	1.5	1.3	1.0	1.1	2.4	1.3	2.0	1.5	1.3	1.7	1.7
5	.90	1.3	1.5	1.0	1.2	2.0	1.5	1.9	1.7	1.3	1.7	2.0
6	1.1	1.4	1.4	1.0	1.2	.88	1.1	1.5	1.5	1.4	1.5	2.0
7	1.1	1.9	1.1	1.0	1.2	.88	1.1	1.4	1.5	1.4	1.4	2.0
8	1.1	2.2	1.1	1.0	1.2	1.0	1.0	1.5	2.0	1.3	1.5	2.4
9	1.0	1.5	1.1	1.0	1.3	1.3	1.0	1.3	1.7	1.1	1.5	2.8
10	.80	1.3	1.2	1.0	1.3	1.5	1.3	1.5	1.1	1.0	1.7	2.4
11	.90	2.0	1.6	1.2	1.3	1.4	1.4	1.5	1.0	1.0	1.9	2.0
12	1.0	2.3	1.9	1.3	1.3	1.0	1.5	1.3	1.0	1.0	1.7	1.7
13	1.0	2.1	2.0	1.3	1.4	1.0	1.7	1.3	1.0	1.0	1.5	1.9
14	1.0	1.8	1.9	1.1	1.5	1.1	2.0	1.3	1.1	1.0	2.0	2.2
15	.90	2.8	1.9	1.1	1.3	1.3	2.4	1.1	1.1	1.1	2.2	1.7
16	1.1	2.0	1.9	1.3	2.4	1.7	2.0	1.1	1.1	1.1	2.2	1.5
17	1.0	2.4	1.9	1.4	2.6	2.0	1.4	1.5	1.1	1.1	2.2	1.5
18	.90	3.1	1.9	1.5	1.9	2.0	.88	1.9	1.1	1.3	2.4	1.5
19	1.0	3.1	1.9	1.5	2.2	1.9	.78	2.0	1.0	1.6	1.9	1.5
20	1.1	3.1	2.0	1.5	1.7	2.2	.68	2.4	1.1	1.3	1.9	1.7
21	1.2	2.8	2.0	1.5	1.7	2.0	.68	2.2	1.1	1.2	2.0	1.5
22	1.1	2.8	2.0	1.3	1.7	3.1	1.3	2.0	1.1	1.2	1.9	1.5
23	1.5	2.6	2.0	1.2	1.9	3.1	2.0	1.9	1.1	1.2	2.6	1.7
24	2.2	1.7	1.9	1.1	1.3	3.6	3.4	1.9	1.1	3.0	2.2	1.7
25	1.2	2.0	1.8	1.0	1.9	4.8	1.7	1.7	1.1	7.0	2.2	2.0
26	2.0	2.6	1.8	1.0	1.5	3.4	2.2	1.5	1.1	4.5	47	2.0
27	2.5	1.1	1.8	1.0	1.4	2.6	3.6	1.5	1.1	3.6	19	1.7
28	1.9	1.9	1.8	1.0	1.5	3.6	2.6	1.4	1.1	3.1	2.6	1.7
29	1.7	1.9	1.6	1.0	---	3.6	2.2	1.3	1.3	2.4	2.4	1.7
30	1.5	1.8	1.4	1.0	---	4.5	1.9	1.4	1.3	2.4	2.4	1.5
31	1.5	---	1.3	1.0	---	4.2	---	1.9	---	2.0	2.2	---
TOTAL	37.30	61.5	51.4	35.4	42.3	67.96	56.02	50.7	37.6	55.8	122.7	55.9
MEAN	1.20	2.05	1.66	1.14	1.51	2.19	1.87	1.64	1.25	1.80	3.96	1.86
MAX	2.5	3.1	2.0	1.5	2.6	4.8	5.2	2.4	2.6	7.0	47	2.8
MIN	.60	1.1	1.1	1.0	1.1	.88	.68	1.1	1.0	1.0	1.4	1.5
AC-FT	74	122	102	70	84	135	111	101	75	111	243	111

CAL YR 1978 TOTAL 543.9[illegible] MEAN 1.49 MAX 13 MIN .40 AC-FT 1080
WTR YR 1979 TOTAL 674.58 MEAN 1.85 MAX 47 MIN .60 AC-FT 1340

NOTE.--NO GAGE-HEIGHT RECORD NOV. 30 TO JAN. 15.

07105920 LITTLE FOUNTAIN CREEK ABOVE KEATON RESERVOIR NEAR FT. CARSON, CO

LOCATION.--Lat 38°40'54", long 104°51'29", in NE¼SW¼ sec.2, T.16 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on right bank 0.1 mi (0.2 km), 0.7 mi (1.1 km) upstream from State Highway 115, and 4.8 mi (7.7 km) southwest of Ft. Carson.

DRAINAGE AREA.--11.0 mi² (28.5 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1978 to current year.

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 6,430 ft (1,960 m), from topographic map.

REMARKS.--Records good except those above 20 ft³/s (0.57 m³/s), which are fair, and those for Nov. 27, 1978 to Mar. 2, 1979, which are poor. No diversion above station.

EXTREMES FOR CURRENT YEAR.--Peak discharges for period May 23, 1978 to Sept. 30, 1979, above base of 10 ft³/s (0.28 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Apr. 18	2300	22	0.62	1.38	0.421	June 10	0615	*29	0.82	1.67	0.509
June 4	0545	27	0.76	1.60	0.488	Aug. 18	2100	11	0.31	1.00	0.028

No flow Aug. 22-28, Sept. 8-24, 1978.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								---	1.8	.40	.30	.18
2								---	1.9	.30	.29	.12
3								---	2.0	.24	.23	.08
4								---	2.0	.19	.29	.05
5								---	1.8	.16	.23	.04
6								---	1.7	.13	.16	.04
7								---	1.7	.13	.12	.02
8								---	1.6	.13	.09	.00
9								---	1.6	.13	.09	.00
10								---	1.6	.25	.12	.00
11								---	1.5	.21	.13	.00
12								---	1.4	.16	.09	.00
13								---	1.3	.15	.08	.00
14								---	1.2	.46	.06	.00
15								---	1.0	.25	.05	.00
16								---	.90	.19	.05	.00
17								---	.80	.18	.03	.00
18								---	.70	.15	.03	.00
19								---	.65	.13	.03	.00
20								---	.58	.13	.01	.00
21								---	.61	.17	.02	.00
22								---	.47	.19	.00	.00
23								1.7	.38	.17	.00	.00
24								1.6	.38	.12	.00	.00
25								1.4	.33	.08	.00	.03
26								1.3	.30	.09	.00	.09
27								1.4	.26	.08	.00	.11
28								2.0	.26	.07	.00	.08
29								2.0	.24	.06	.17	.06
30								1.8	.31	.06	.36	.07
31								1.8	---	.09	.26	---
TOTAL								---	31.27	5.25	3.29	.97
MEAN								---	1.04	.17	.11	.032
MAX								---	2.0	.46	.36	.18
MIN								---	.24	.06	.00	.00
AC-FT								---	62	10	6.5	1.9

07105920 LITTLE FOUNTAIN CREEK ABOVE KEATON RESERVOIR NEAR FT. CARSON, CO--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	8.0	12	77	140	68	13	12	461	465	529	108
2	24	7.6	13	67	150	67	13	14	453	620	388	81
3	20	6.2	13	60	150	71	16	15	371	713	174	64
4	19	5.6	13	50	140	66	15	12	249	610	80	54
5	18	5.3	13	45	130	72	24	12	178	603	129	52
6	17	5.3	14	36	120	67	18	10	255	697	160	38
7	18	5.3	14	27	117	99	17	9.1	437	650	93	43
8	17	4.8	14	20	119	100	16	9.4	657	452	50	47
9	15	5.3	14	19	122	58	15	12	1190	528	45	45
10	15	4.3	14	22	138	45	17	12	1440	424	41	37
11	14	4.3	14	25	156	41	18	10	1190	424	47	36
12	15	5.3	14	26	160	40	34	10	305	435	85	35
13	14	5.3	14	18	170	37	156	11	150	354	110	36
14	13	5.4	13	15	180	34	80	11	117	317	113	39
15	13	4.8	13	31	170	33	31	12	134	388	122	47
16	12	4.3	16	44	130	27	25	14	237	445	64	70
17	14	4.8	29	46	80	23	22	9.8	614	343	42	155
18	11	8.0	18	44	100	19	19	9.6	484	513	111	127
19	8.0	12	20	47	110	18	19	10	609	352	249	65
20	8.0	13	30	59	107	18	18	11	453	192	332	40
21	8.0	18	56	58	102	20	16	10	565	130	370	31
22	9.4	13	75	55	98	19	15	12	693	395	273	24
23	9.4	14	66	38	84	19	15	417	624	488	218	16
24	9.4	13	62	48	95	18	15	402	1770	527	275	14
25	9.4	14	74	80	102	18	16	425	952	580	356	13
26	10	12	68	90	94	18	15	528	240	467	534	14
27	10	12	85	85	100	18	15	463	196	254	495	12
28	9.4	12	85	80	91	18	14	486	94	383	439	12
29	8.7	12	100	81	---	14	13	476	506	470	447	12
30	8.7	12	100	91	---	13	12	664	406	400	284	11
31	8.2	---	81	110	---	15	---	298	---	500	154	---
TOTAL	412.6	256.9	1167	1594	3455	1193	732	4406.9	16030	14119	6809	1378
MEAN	13.3	8.56	37.6	51.4	123	38.5	24.4	142	534	455	220	45.9
MAX	27	18	100	110	180	100	156	664	1770	713	534	155
MIN	8.0	4.3	12	15	80	13	12	9.1	94	130	41	11
AC-FT	818	510	2310	3160	6850	2370	1450	8740	31800	28010	13510	2730

CAL YR 1978 TOTAL 35227.1 MEAN 96.5 MAX 3300 MIN 4.3 AC-FT 69870

NOTE.--NO GAGE-HEIGHT RECORD NOV. 27 TO MAR. 2.

07105920 LITTLE FOUNTAIN CREEK ABOVE KEATON RESERVOIR NEAR FORT CARSON, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 1978 to current year.

REMARKS.--Data collected in 1978 water year are published in this report.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
APR								
21...	1300	.65	96	7.0	10.0	9.4	33	4

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
APR									
21...	9.9	2.0	5.7	.4	1.3	29	10	1.3	3.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
APR								
21...	10	61	.11	.00	.000	.00	10	0

07105920 LITTLE FOUNTAIN CREEK ABOVE KEATON RESERVOIR NEAR FORT CARSON, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
APR									
04...	1045	2.7	129	7.8	.0	11.2	38	11	11
MAY									
01...	1135	8.3	70	6.5	6.5	9.7	27	13	8.0
29...	1316	9.4	70	8.0	9.5	8.9	25	9	8.5
JUL									
03...	1215	3.2	75	7.2	16.0	--	34	14	9.7
AUG									
15...	1430	1.8	110	7.8	14.0	7.7	37	7	11
SEP									
12...	1245	.85	120	7.1	15.0	7.4	40	10	12

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
APR									
04...	2.5	6.7	.5	1.2	27	15	4.2	2.8	12
MAY									
01...	1.8	4.1	.3	1.3	14	8.7	1.1	3.0	13
29...	.9	3.8	.3	1.1	16	11	1.2	2.9	10
JUL									
03...	2.3	4.5	.3	1.4	20	15	1.4	2.9	13
AUG									
15...	2.4	5.6	.4	1.6	30	11	1.1	2.9	12
SEP									
12...	2.4	6.0	.4	2.0	30	16	1.2	3.0	13

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
APR								
04...	72	.54	11	.15	.000	.02	10	2
MAY								
01...	50	1.13	0	.03	.010	--	50	5
29...	49	1.25	3	.00	.010	--	40	0
JUL								
03...	62	.54	3	.00	.000	--	10	<1
AUG								
15...	66	.34	0	.04	.000	--	40	0
SEP								
12...	74	.17	1	.00	.000	.00	<10	2

07105924 WOMACK DITCH NEAR FT. CARSON, CO

LOCATION.--Lat 38°40'52", long 104°51'20", in NW¼SE¼ sec.2, T.16 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on left side of diversion pipe, 300 ft (91 m) downstream from Keaton Reservoir, 0.5 mi (0.8 km) upstream from State Highway 115, and 4.7 m (7.6 km) southwest of Ft. Carson.

PERIOD OF RECORD.--June 1978 to current year.

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 6,400 ft (1,951 m), from topographic map.

REMARKS.--Records good except those for periods of no gage-height record, which are poor. Gage is on controlled pipe diversion from Keaton Reservoir, which delivers appropriated water rights to Ft. Carson and the City of Fountain.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge for period June 5, 1978 to Sept. 30, 1979, 4.8 ft³/s (0.14 m³/s) June 3, 4, 9-15, 1979; minimum daily discharge, 0.13 ft³/s (0.004 m³/s) Oct. 20, 1979.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									---	.48	.45	.35
2									---	.48	.47	.35
3									---	.48	.45	.35
4									---	.48	.45	.35
5									2.2	.45	.45	.35
6									2.1	.45	.45	.35
7									1.8	.45	.45	.35
8									1.8	.45	.45	.35
9									1.8	.45	.45	.33
10									1.8	.45	.41	.37
11									1.8	.45	.41	.38
12									1.6	.45	.41	.36
13									1.5	.45	.41	.35
14									1.5	.44	.41	.35
15									1.4	.45	.41	.35
16									1.2	.45	.38	.35
17									.99	.46	.38	.35
18									1.0	.47	.38	.35
19									1.1	.48	.38	.34
20									1.1	.45	.38	.32
21									1.1	.46	.38	.32
22									1.1	.45	.38	.32
23									1.1	.45	.38	.32
24									1.1	.46	.38	.32
25									1.1	.46	.38	.29
26									.90	.46	.37	.29
27									.48	.46	.35	.29
28									.48	.46	.35	.28
29									.48	.45	.35	.25
30									.48	.45	.35	.25
31									---	.45	.35	---
TOTAL									---	14.18	12.45	9.93
MEAN									---	.46	.40	.33
MAX									---	.48	.47	.38
MIN									---	.44	.35	.25
AC-FT									---	28	25	20

07105924 WOMACK DITCH NEAR FT. CARSON, CO--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.25	.35	.35	.38	.38	.39	1.3	3.6	4.4	4.1	1.5	.75
2	.25	.35	.35	.38	.38	.39	2.2	3.6	4.6	4.0	1.5	.75
3	.25	.35	.35	.38	.38	.39	3.4	3.6	4.8	3.9	1.5	.75
4	.22	.35	.36	.38	.38	.40	3.4	3.6	4.8	3.9	1.5	.75
5	.20	.34	.35	.38	.38	.40	3.3	3.6	4.7	3.9	1.4	.90
6	.22	.34	.35	.38	.38	.40	3.3	3.6	4.6	3.9	1.1	1.2
7	.19	.35	.35	.38	.38	.40	3.4	3.6	4.5	3.9	.90	1.2
8	.19	.35	.35	.38	.38	.41	3.5	3.6	4.6	3.9	.90	1.1
9	.19	.38	.35	.38	.38	.41	3.5	3.6	4.8	3.9	.57	1.2
10	.19	.38	.35	.38	.38	.40	3.5	3.6	4.8	3.8	.29	1.2
11	.21	.38	.35	.38	.38	.41	3.5	3.6	4.8	3.7	.29	1.1
12	.22	.38	.35	.38	.38	.41	3.5	3.6	4.8	3.7	.29	1.1
13	.23	.38	.35	.38	.38	.41	3.5	3.6	4.8	3.6	.29	1.1
14	.23	.38	.35	.38	.38	.41	3.5	3.6	4.8	3.4	.30	1.2
15	.25	.38	.35	.38	.38	1.3	3.6	3.6	4.8	3.4	1.2	1.3
16	.25	.38	.35	.38	.38	3.0	3.7	3.6	4.7	3.3	1.8	1.5
17	.25	.36	.35	.38	.38	2.9	3.9	3.6	4.7	3.2	1.8	1.3
18	.25	.34	.35	.38	.38	2.0	4.0	3.6	4.6	3.1	1.7	1.2
19	.25	.33	.35	.38	.38	1.2	3.9	3.6	4.6	1.9	1.7	1.1
20	.13	.37	.35	.38	.38	1.2	3.8	3.6	4.7	.53	2.9	1.1
21	.23	.37	.36	.38	.38	1.1	3.7	3.6	4.6	.35	3.8	1.1
22	.25	.36	.36	.38	.38	1.2	3.7	3.8	4.6	.37	1.7	1.1
23	.28	.35	.36	.38	.38	1.2	3.7	4.1	4.6	.38	.64	1.1
24	.30	.35	.36	.38	.38	1.1	3.7	4.1	4.4	.38	1.6	1.1
25	.29	.35	.36	.38	.38	1.2	3.7	4.1	4.4	.38	1.6	1.1
26	.29	.35	.36	.38	.38	1.2	3.6	4.1	4.4	.38	1.6	1.1
27	.29	.35	.36	.38	.38	1.2	3.6	4.1	4.4	.98	1.6	1.1
28	.29	.35	.36	.38	.38	1.2	3.6	4.1	4.5	1.3	1.6	.69
29	.29	.35	.37	.38	---	1.3	3.6	4.1	4.5	1.3	1.5	.48
30	.32	.35	.37	.38	---	1.3	3.6	4.2	4.3	1.3	1.6	.51
31	.34	---	.37	.38	---	1.3	---	4.4	---	1.4	1.0	---
TOTAL	7.59	10.75	11.00	11.78	10.64	30.53	104.2	116.7	138.6	77.55	41.67	31.18
MEAN	.24	.36	.35	.38	.38	.98	3.47	3.76	4.62	2.50	1.34	1.04
MAX	.34	.38	.37	.38	.38	3.0	4.0	4.4	4.8	4.1	3.8	1.5
MIN	.13	.33	.35	.38	.38	.39	1.3	3.6	4.3	.35	.29	.48
AC-FT	15	21	22	23	21	61	207	231	275	154	83	62

WTR YR 1979 TOTAL 592.19 MEAN 1.62 MAX 4.8 MIN .13 AC-FT 1170

NOTE.--NO GAGE-HEIGHT RECORD JAN. 30-MAR. 7, 1979.

07105928 LITTLE FOUNTAIN CREEK NEAR FT. CARSON, CO

LOCATION.--Lat 38°40'49", long 104°51'08", in SW¼SE¼ sec.2, T.16 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on right bank 0.3 mi (0.5 km) downstream from Keaton Reservoir, 0.4 mi (0.6 km) upstream from State Highway 115, 1.2 mi (1.9 km) upstream from Deadman Canyon and 4.8 mi (7.7 km) southwest of Ft. Carson.

DRAINAGE AREA.--11.8 km² (30.6 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,360 ft (1,939 m), from topographic map.

REMARKS.--Records good except those above 5 ft³/s (0.14 m³/s) which are poor. Womack Ditch diverts about 5 ft³/s (0.14 m³/s) from Keaton Reservoir upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge for period May 24, 1978 to Sept. 30, 1979, 17 ft³/s (0.48 m³/s), at 2315 June 9, 1979, gage height, 3.20 ft (0.975 m), from rating curve extended above 5.0 ft³/s (0.14 m³/s); no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								---	2.0	.00	.00	.00
2								---	2.1	.00	.00	.00
3								---	2.0	.00	.00	.00
4								---	2.0	.00	.00	.00
5								---	1.8	.00	.00	.00
6								---	.21	.00	.00	.00
7								---	.13	.00	.00	.00
8								---	.09	.00	.00	.00
9								---	.07	.00	.00	.00
10								---	.05	.00	.00	.00
11								---	.03	.00	.00	.00
12								---	.03	.00	.00	.00
13								---	.02	.00	.00	.00
14								---	.01	.00	.00	.00
15								---	.00	.00	.00	.00
16								---	.00	.00	.00	.00
17								---	.00	.00	.00	.00
18								---	.00	.00	.00	.00
19								---	.00	.00	.00	.00
20								---	.00	.00	.00	.00
21								---	.00	.00	.00	.00
22								---	.00	.00	.00	.00
23								---	.00	.00	.00	.00
24								.11	.00	.00	.00	.00
25								.09	.00	.00	.00	.00
26								.03	.00	.00	.00	.00
27								.03	.00	.00	.00	.00
28								.02	.00	.00	.00	.00
29								.01	.00	.00	.00	.00
30								.00	.00	.00	.00	.00
31								.94	---	.00	.00	---
TOTAL								---	10.54	.00	.00	.00
MEAN								---	.35	.000	.000	.000
MAX								---	2.1	.00	.00	.00
MIN								---	.00	.00	.00	.00
AC-FT								---	21	.00	.00	.00

07105928 LITTLE FOUNTAIN CREEK NEAR FT. CARSON, CO--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	1.9	4.6	8.9	.17	.03	.70
2	.00	.00	.00	.00	.00	.19	1.3	4.2	11	.09	.02	.58
3	.00	.00	.00	.00	.00	.70	.13	3.9	15	.09	.00	.46
4	.00	.00	.00	.00	.00	.62	.02	3.3	15	.05	.00	.33
5	.00	.00	.00	.00	.00	.39	.00	3.4	14	.03	.00	.21
6	.00	.00	.00	.00	.00	.21	.00	3.7	13	.09	.00	.15
7	.00	.00	.00	.00	.00	.17	.00	4.5	12	.07	.00	.15
8	.00	.00	.00	.00	.00	.17	4.2	4.7	12	.05	.00	.13
9	.00	.00	.00	.00	.00	.21	5.1	4.7	15	.04	.00	.09
10	.00	.00	.00	.00	.00	.17	4.8	4.7	17	.02	.00	.05
11	.00	.00	.00	.00	.00	.19	4.3	4.1	16	.01	.00	.03
12	.00	.00	.00	.00	.00	.89	3.3	3.6	15	.01	.00	.02
13	.00	.00	.00	.00	.00	.94	2.5	3.0	13	.00	.10	.01
14	.00	.00	.00	.00	.00	.94	2.9	2.5	12	.00	1.6	.09
15	.00	.00	.00	.00	.00	.70	5.4	2.2	11	.00	1.5	.27
16	.00	.00	.00	.00	.00	.24	7.9	2.2	9.1	.00	.42	.15
17	.00	.00	.00	.00	.00	.09	10	2.3	7.8	.00	.15	.09
18	.00	.00	.00	.00	.00	.05	11	2.2	6.6	.00	.79	.07
19	.00	.00	.00	.00	.00	.02	10	2.4	5.6	.00	4.5	.03
20	.00	.00	.00	.00	.00	.01	8.9	3.1	4.6	.00	2.5	.01
21	.00	.00	.00	.00	.00	.00	7.7	3.4	3.7	.00	.92	.00
22	.00	.00	.00	.00	.00	.00	6.9	3.3	3.2	.00	1.3	.00
23	.00	.00	.00	.00	.00	.00	7.2	3.6	2.9	.00	2.8	.00
24	.00	.00	.00	.00	.00	.00	8.5	3.9	1.9	.00	1.8	.00
25	.00	.00	.00	.00	.00	.00	8.4	3.7	1.3	.00	1.5	.00
26	.00	.00	.00	.00	.00	.00	7.7	3.7	1.1	.00	1.4	.00
27	.00	.00	.00	.00	.00	.00	7.1	3.7	.81	.70	1.5	.00
28	.00	.00	.00	.00	.00	.00	6.3	3.8	.58	.13	1.1	.00
29	.00	.00	.00	.00	---	.00	5.7	4.5	.50	.05	.89	.00
30	.00	.00	.00	.00	---	.00	4.9	5.4	.27	.03	.66	.00
31	.00	---	.00	.00	---	1.7	---	7.7	---	.02	.54	---
TOTAL	.00	.00	.00	.00	.00	8.60	154.05	116.0	249.86	1.65	26.02	3.62
MEAN	.000	.000	.000	.000	.000	.28	5.14	3.74	8.33	.053	.84	.12
MAX	.00	.00	.00	.00	.00	1.7	11	7.7	17	.70	4.5	.70
MIN	.00	.00	.00	.00	.00	.00	.00	2.2	.27	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	17	306	230	496	3.3	52	7.2

WTR YR 1979 TOTAL 559.80 MEAN 1.53 MAX 17 MIN .00 AC-FT 1110

07105928 LITTLE FOUNTAIN CREEK NEAR FT. CARSON, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 1978 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
APR									
03...	1300	.13	180	6.4	1.0	10.4	75	19	23
MAY									
01...	1447	4.6	90	7.2	7.0	9.5	31	15	9.0
23...	1352	3.5	80	7.1	9.5	8.7	31	11	9.3
JUL									
05...	1315	.05	280	7.1	17.0	4.3	120	33	36

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
APR									
03...	4.3	6.8	.3	1.3	56	22	2.2	2.4	11
MAY									
01...	2.0	4.4	.3	1.3	16	9.3	1.6	2.9	13
23...	1.9	4.3	.3	1.2	20	10	1.0	3.0	10
JUL									
05...	7.4	7.9	.3	1.7	87	39	2.1	2.6	15

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
APR								
03...	111	.04	7	.87	.010	.05	20	3
MAY								
01...	54	.68	0	.09	.000	--	70	2
23...	53	.51	0	.00	.010	--	20	10
JUL								
05...	165	.02	5	.23	.010	--	10	<1

07105940 LITTLE FOUNTAIN CREEK NEAR FOUNTAIN, CO

LOCATION.--Lat 38°38'33", long 104°44'49", in NE¼SW¼ sec.23, T.16 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on Ft. Carson Military Reservation, on right bank 300 ft (91 m) downstream from Military Road No. 1, 0.4 mi (0.6 km) upstream from mouth of Rock Creek, 3.8 mi (6.1 km) southwest of Fountain.

DRAINAGE AREA.--26.9 mi² (69.7 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,560 ft (1,695 m), from topographic map.

REMARKS.--Records good except those above 20 ft³/s (0.57 m³/s), which are fair. Diversions above station for irrigation, recreation, and municipal use, amount unknown.

EXTREMES FOR CURRENT YEAR.--Peak discharges for period May 23, 1978 to Sept. 30, 1979, above base of 20 ft³/s (0.57 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
June 7	1500	20	0.57	2.48	0.776	June 10	1000	51	1.44	3.13	0.954
Apr. 11	0045	37	1.05	2.94	0.896	July 3	1815	46	1.30	3.05	0.930
Apr. 20	1130	30	0.85	2.85	0.869	July 7	1030	32	0.91	2.86	0.872
June 5	0100	30	0.85	2.86	0.872	Aug. 26	2000	*260	7.36	4.50	a1.372

a From floodmarks.

No flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								---	.00	.00	.00	.00
2								---	.00	.00	.00	.00
3								---	.00	.00	.00	.00
4								---	.00	.00	.00	.00
5								---	.00	.00	.00	.00
6								---	.00	.00	.00	.00
7								---	.39	.00	.00	.00
8								---	.02	.00	.00	.00
9								---	.00	.00	.00	.00
10								---	.00	.00	.00	.00
11								---	.00	.00	.00	.00
12								---	.00	.00	.00	.00
13								---	.00	.18	.00	.00
14								---	.00	.05	.00	.00
15								---	.00	.00	.00	.00
16								---	.00	.00	.00	.00
17								---	.00	.00	.00	.00
18								---	.00	.00	.00	.00
19								---	.00	.00	.00	.00
20								---	.00	.00	.00	.00
21								---	.00	.00	.00	.00
22								---	.00	.00	.00	.00
23								.00	.00	.00	.00	.00
24								.00	.00	.00	.00	.00
25								.00	.00	.00	.00	.00
26								.00	.00	.00	.00	.00
27								.00	.00	.00	.00	.00
28								.00	.00	.00	.00	.00
29								.00	.00	.00	.00	.00
30								.00	.00	.00	.00	.00
31								.00	---	.08	.00	---
TOTAL								---	.41	.31	.00	.00
MEAN								---	.014	.010	.000	.000
MAX								---	.39	.18	.00	.00
MIN								---	.00	.00	.00	.00
AC-FT								---	.8	.6	.00	.00

07105960 LITTLE FOUNTAIN CREEK NEAR FOUNTAIN, CO--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	6.0	11	1.8	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	5.3	17	2.1	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	3.8	24	7.3	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	2.3	27	12	.00	.00
5	.00	.00	.00	.00	.00	.00	.16	2.7	28	3.3	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	2.6	22	7.5	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	3.8	18	5.4	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	5.2	22	1.8	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	4.7	40	2.4	.05	.00
10	.00	.00	.00	.00	.00	.00	.34	5.1	49	2.0	.13	.00
11	.00	.00	.00	.00	.00	.00	7.1	3.0	45	1.9	.11	.00
12	.00	.00	.00	.00	.00	.00	.86	2.2	38	1.8	.10	.00
13	.00	.00	.00	.00	.00	.00	.75	1.8	25	.60	.05	.00
14	.00	.00	.00	.00	.00	.00	.25	1.1	14	.27	.31	.00
15	.00	.00	.00	.00	.00	.00	1.1	.60	7.5	.30	.34	.00
16	.00	.00	.00	.00	.00	.00	5.9	.49	5.0	.05	.14	.00
17	.00	.00	.00	.00	.00	.00	9.1	.54	3.7	.02	.09	.00
18	.00	.00	.00	.00	.00	.00	8.9	.69	3.6	.01	.62	.00
19	.00	.00	.00	.00	.00	.00	7.9	.65	2.7	.02	.13	.00
20	.00	.00	.00	.00	.00	.00	9.7	2.0	1.9	.00	.78	.00
21	.00	.00	.00	.00	.00	.00	9.2	2.9	1.5	.00	.12	.00
22	.00	.00	.00	.00	.00	.00	8.0	2.2	1.4	.00	.01	.00
23	.00	.00	.00	.00	.00	.00	7.9	2.0	1.4	.00	.08	.00
24	.00	.00	.00	.00	.00	.00	8.5	2.8	1.7	.00	.23	.00
25	.00	.00	.00	.00	.00	.00	8.6	2.8	1.2	.00	.02	.00
26	.00	.00	.00	.00	.00	.00	7.9	2.5	1.5	.00	22	.00
27	.00	.00	.00	.00	.00	.00	7.2	2.1	1.3	.00	1.5	.00
28	.00	.00	.00	.00	.00	.00	6.7	1.7	.90	.00	.40	.00
29	.00	.00	.00	.00	---	.00	7.0	1.5	1.0	.00	.08	.00
30	.00	.00	.00	.00	---	.00	7.1	4.9	.76	.00	.02	.00
31	.00	---	.00	.00	---	.00	---	15	---	.00	.00	---
TOTAL	.00	.00	.00	.00	.00	.00	130.16	94.97	417.06	50.57	27.31	.00
MEAN	.000	.000	.000	.000	.000	.000	4.34	3.06	13.9	1.63	.88	.000
MAX	.00	.00	.00	.00	.00	.00	9.7	15	49	12	22	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.49	.76	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	258	188	827	100	54	.00

WTR YR 1979 TOTAL 720.07 MEAN 1.97 MAX 49 MIN .00 AC-FT 1430

07105940 LITTLE FOUNTAIN CREEK NEAR FOUNTAIN, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 1978 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	NITROGEN, DISSOLVED (MG/L AS N)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)
APR												
12...	1145	1.1	1050	8.0	8.0	9.7	--	460	340	120	38	77
25...	1202	8.4	300	7.9	9.5	9.1	--	130	75	37	8.6	19
MAY												
21...	1525	2.7	580	8.2	18.0	7.5	--	230	150	62	18	37
JUN												
07...	1230	17	280	7.7	12.5	8.4	.07	110	56	31	6.7	13
28...	1130	1.0	1750	8.1	23.5	6.6	--	780	590	190	75	170

DATE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)
APR												
12...	1.6	5.0	120	460	11	2.1	9.4	802	2.51	--	--	1.7
25...	.7	1.7	53	99	3.4	2.8	13	218	4.99	379	--	.25
MAY												
21...	1.1	2.1	80	280	5.0	3.0	10	386	2.81	156	--	.22
JUN												
07...	.6	1.7	49	69	2.3	2.7	13	169	8.08	438	.11	.07
28...	2.6	3.5	190	870	15	2.6	12	1450	3.95	38	--	.11

DATE	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DISSOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
APR												
12...	--	--	--	--	--	--	--	.010	--	.00	90	40
25...	--	--	--	--	--	--	--	.010	--	--	60	10
MAY												
21...	--	--	--	--	--	--	--	.010	--	--	10	30
JUN												
07...	.02	.00	.62	.00	.64	.64	.050	.010	.03	--	10	8
28...	--	--	--	--	--	--	--	.000	--	--	10	70

DATE	TIME	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
JUN									
07...	1230	7800	2	100	0	60	3	20	13

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
JUN									
07...	12000	17	170	.3	4	22	6	0	70

07105965 ROCK CREEK ABOVE FT. CARSON RESERVATION, CO

LOCATION.--Lat 38°42'27", long 104°50'46", in NW¼NW¼ sec.36, T.15 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on right bank 20 ft (6 m) upstream from county road bridge, 0.6 mi (1.0 km) northwest of Rock Creek Park, 1.2 mi (1.9 km) upstream from State Highway 115, and 3.2 mi (5.1 km) southwest of Ft. Carson.

DRAINAGE AREA.--6.79 mi² (17.6 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,390 ft (1,948 m) from topographic map.

REMARKS.--Records good.

EXTREMES FOR CURRENT YEAR.--Peak discharges for period May 19, 1978 to Sept. 30, 1979 above base of 10 ft³/s (0.28 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Apr. 17	1700	*16	0.45	1.87	0.570	June 9	2200	14	0.40	*1.99	0.607
June 3	0245	10	0.28	1.82	0.555						

No flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								---	1.3	.10	.00	.00
2								---	1.5	.09	.00	.00
3								---	1.4	.07	.00	.00
4								---	1.6	.04	.00	.00
5								---	1.9	.02	.00	.00
6								---	1.8	.00	.00	.00
7								---	2.0	.00	.00	.00
8								---	2.6	.00	.00	.00
9								---	2.1	.00	.00	.00
10								---	1.9	.00	.00	.00
11								---	1.8	.00	.00	.00
12								---	1.6	.00	.00	.00
13								---	1.6	.00	.00	.00
14								---	1.5	.00	.00	.00
15								---	1.3	.00	.00	.00
16								---	1.1	.00	.00	.00
17								---	1.0	.00	.00	.00
18								---	1.1	.00	.00	.00
19								1.9	.94	.00	.00	.00
20								1.8	.90	.00	.00	.00
21								2.9	.82	.00	.00	.00
22								3.2	.68	.00	.00	.00
23								2.5	.56	.00	.00	.00
24								2.0	.38	.00	.00	.00
25								1.7	.29	.00	.00	.00
26								1.5	.21	.00	.00	.00
27								1.7	.16	.00	.00	.00
28								1.9	.16	.00	.00	.00
29								1.6	.14	.00	.00	.00
30								1.4	.12	.00	.00	.00
31								1.3	---	.00	.00	---
TOTAL								---	34.46	.32	.00	.00
MEAN								---	1.15	.010	.000	.000
MAX								---	2.6	.10	.00	.00
MIN								---	.12	.00	.00	.00
AC-FT								---	68	.6	.00	.00

07105945 ROCK CREEK ABOVE FT. CARSON RESERVATION, CO--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.05	.04	.10	.18	1.6	5.1	7.6	1.6	.32	.86
2	.00	.00	.05	.04	.10	.17	1.4	5.3	9.1	1.4	.26	.75
3	.00	.00	.04	.04	.09	.16	1.7	5.3	10	1.9	.22	.68
4	.00	.00	.03	.04	.08	.16	1.3	5.3	9.6	2.3	.21	.60
5	.00	.00	.03	.04	.08	.17	2.0	5.4	8.8	1.6	.18	.55
6	.00	.00	.05	.04	.08	.16	4.2	5.5	8.2	1.8	.15	.49
7	.00	.00	.06	.04	.08	.20	7.0	6.2	7.8	1.6	.14	.44
8	.00	.00	.06	.04	.08	.26	8.5	6.4	8.9	1.2	.12	.40
9	.00	.00	.05	.04	.08	.28	8.2	6.2	13	.99	.15	.37
10	.00	.00	.06	.04	.08	.32	8.2	5.7	14	.84	.36	.34
11	.00	.00	.06	.04	.09	.40	8.0	5.2	12	.79	.36	.33
12	.00	.00	.06	.04	.09	.39	7.1	4.8	11	.72	.30	.33
13	.00	.00	.05	.04	.11	.36	6.6	4.3	9.6	.67	.24	.37
14	.00	.01	.05	.04	.18	.42	8.1	4.0	8.5	.66	1.2	.87
15	.00	.03	.05	.04	.16	.46	11	3.7	7.7	1.0	2.2	.64
16	.00	.04	.05	.04	.13	.51	13	3.8	7.0	.69	4.9	.50
17	.00	.04	.05	.04	.11	.57	14	3.8	6.3	.63	2.7	.43
18	.00	.04	.06	.04	.11	.56	14	3.7	5.7	.61	3.7	.37
19	.00	.05	.08	.05	.12	.54	13	3.8	5.1	.56	5.4	.35
20	.00	.05	.07	.06	.13	.56	12	5.1	4.7	.50	4.2	.32
21	.00	.05	.06	.09	.14	.64	11	4.6	4.3	.47	3.3	.36
22	.00	.05	.06	.11	.14	.74	10	3.9	3.8	.41	2.7	.42
23	.00	.06	.05	.12	.14	.79	10	4.2	3.5	.38	2.3	.31
24	.00	.07	.05	.13	.14	.94	9.9	4.2	3.2	.43	2.1	.27
25	.00	.07	.04	.14	.14	1.0	9.6	4.1	2.9	.50	1.8	.32
26	.00	.06	.04	.15	.15	1.2	8.5	3.9	2.7	.50	2.3	.30
27	.00	.06	.04	.17	.20	1.4	7.7	3.6	2.4	.39	2.3	.20
28	.00	.05	.04	.15	.17	2.3	6.8	3.7	2.2	.34	1.7	.20
29	.00	.05	.05	.13	---	2.9	6.1	3.6	2.0	.30	1.3	.18
30	.00	.05	.05	.12	---	2.5	5.5	4.0	1.8	.30	1.1	.17
31	.00	---	.04	.12	---	2.0	---	7.4	---	.34	.98	---
TOTAL	.00	.83	1.58	2.26	3.30	23.24	236.0	145.8	203.4	26.42	49.19	12.72
MEAN	.000	.028	.051	.073	.12	.75	7.87	4.70	6.78	.85	1.59	.42
MAX	.00	.07	.08	.17	.20	2.9	14	7.4	14	2.3	5.4	.87
MIN	.00	.00	.03	.04	.08	.16	1.3	3.6	1.8	.30	.12	.17
AC-FT	.00	1.6	3.1	4.5	6.5	46	468	289	403	52	98	25

WTR YR 1979 TOTAL 704.74 MEAN 1.93 MAX 14 MIN .00 AC-FT 1400

07105945 ROCK CREEK ABOVE FT. CARSON RESERVATION, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 1978 to current year.

REMARKS.--Data collected in 1978 water year are published in this report.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
APR 21...	1130	.15	154	7.2	11.0	9.4	55	9	16	3.7	8.9	.5

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
APR 21...	1.5	47	21	2.7	1.8	12	96	.08	.030	10	0

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
APR 26...	1532	8.3	100	7.1	7.0	9.3	35	15	10	2.5	5.6	.4
MAY 23...	1107	4.2	90	7.2	8.0	9.2	35	11	10	2.4	5.2	.4
JUN 29...	1200	1.9	130	6.7	15.0	--	52	18	15	3.6	6.4	.4
AUG 15...	1115	1.5	155	7.6	13.5	8.0	56	8	16	3.8	8.2	.5

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
APR 26...	1.8	20	15	1.8	1.7	14	65	0	.07	.010	70	1
MAY 23...	1.5	24	14	1.4	.8	13	63	0	.01	.020	10	10
JUN 29...	1.7	34	22	1.4	1.8	15	87	4	.00	.010	10	<1
AUG 15...	1.9	48	20	1.5	1.7	14	96	0	.05	.020	80	0

07105950 ROCK CREEK NEAR FT. CARSON, CO

LOCATION.--Lat 38°41'49", long 104°49'39", in SW¼SW¼ sec.31, T.15 S., R.66 W., Hydrologic Unit 11020003, on left bank at Ft. Carson Girl Scout Camp, 0.2 mi (0.3 km) downstream from bridge on State Highway 115 and 2.9 mi (4.7 km) southwest of Ft. Carson.

DRAINAGE AREA.--7.79 mi² (20.2 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,150 ft (1,875 m) from topographic map.

REMARKS.--Records good except those above 20 ft³/s (0.57 m³/s) which are poor. Some diversions above station for irrigation and other uses, amounts unknown.

EXTREMES FOR CURRENT YEAR.--Maximum discharge for period May 19, 1978 to Sept. 30, 1979, 22 ft³/s (0.62 m³/s) at 2000 June 9, 1979, gage height, 3.75 ft (1.143 m); no flow most of time.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								---	.15	.00	.00	.00
2								---	.13	.00	.00	.00
3								---	.13	.00	.00	.00
4								---	.13	.00	.00	.00
5								---	.12	.00	.00	.00
6								---	.12	.00	.00	.00
7								---	.13	.00	.00	.00
8								---	.13	.00	.00	.00
9								---	.11	.00	.00	.00
10								---	.11	.00	.00	.00
11								---	.11	.00	.00	.00
12								---	.08	.00	.00	.00
13								---	.05	.00	.00	.00
14								---	.01	.00	.00	.00
15								---	.00	.00	.00	.00
16								---	.00	.00	.00	.00
17								---	.00	.00	.00	.00
18								---	.00	.00	.00	.00
19								.22	.00	.00	.00	.00
20								.24	.00	.00	.00	.00
21								.26	.00	.00	.00	.00
22								.28	.00	.00	.00	.00
23								.28	.00	.00	.00	.00
24								.28	.00	.00	.00	.00
25								.26	.00	.00	.00	.00
26								.26	.00	.00	.00	.00
27								.22	.00	.00	.00	.00
28								.19	.00	.00	.00	.00
29								.19	.00	.00	.00	.00
30								.15	.00	.00	.00	.00
31								.15	---	.00	.00	---
TOTAL								---	1.51	.00	.00	.00
MEAN								---	.050	.000	.000	.000
MAX								---	.15	.00	.00	.00
MIN								---	.00	.00	.00	.00
AC-FT								---	3.0	.00	.00	.00

07105950 ROCK CREEK NEAR FT. CARSON, CO--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	2.2	10	.76	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	2.4	12	.66	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	2.2	13	.60	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	2.2	12	.51	.00	.06
5	.00	.00	.00	.00	.00	.00	.00	1.9	11	.38	.00	.10
6	.00	.00	.00	.00	.00	.00	.00	2.0	8.8	.31	.00	.13
7	.00	.00	.00	.00	.00	.00	.01	3.2	7.5	.26	.00	.14
8	.00	.00	.00	.00	.00	.00	.57	3.8	9.9	.23	.00	.16
9	.00	.00	.00	.00	.00	.00	3.4	4.2	19	.20	.00	.16
10	.00	.00	.00	.00	.00	.00	1.5	3.8	20	.19	.00	.16
11	.00	.00	.00	.00	.00	.00	2.5	3.6	17	.16	.00	.16
12	.00	.00	.00	.00	.00	.00	2.1	3.0	14	.16	.00	.16
13	.00	.00	.00	.00	.00	.00	1.8	2.2	11	.16	.00	.15
14	.00	.00	.00	.00	.00	.00	4.9	1.9	8.7	.14	.00	.13
15	.00	.00	.00	.00	.00	.00	10	1.6	6.8	.11	.00	.14
16	.00	.00	.00	.00	.00	.00	12	1.5	5.4	.12	.00	.16
17	.00	.00	.00	.00	.00	.00	13	1.9	4.5	.13	.00	.12
18	.00	.00	.00	.00	.00	.00	14	1.8	3.9	.12	.00	.09
19	.00	.00	.00	.00	.00	.00	13	1.2	3.3	.21	.00	.03
20	.00	.00	.00	.00	.00	.00	10	1.8	2.5	.28	.00	.00
21	.00	.00	.00	.00	.00	.00	8.0	2.4	1.8	.26	.00	.00
22	.00	.00	.00	.00	.00	.00	6.9	2.4	1.4	.22	.00	.00
23	.00	.00	.00	.00	.00	.00	6.9	3.0	1.4	.17	.00	.00
24	.00	.00	.00	.00	.00	.00	7.2	2.8	1.3	.15	.00	.00
25	.00	.00	.00	.00	.00	.00	6.7	2.2	1.2	.11	.00	.00
26	.00	.00	.00	.00	.00	.00	5.0	2.6	1.2	.09	.00	.00
27	.00	.00	.00	.00	.00	.00	3.8	2.4	1.2	.07	.00	.00
28	.00	.00	.00	.00	.00	.00	3.0	2.2	1.0	.06	.00	.00
29	.00	.00	.00	.00	---	.00	2.6	2.2	.92	.03	.00	.00
30	.00	.00	.00	.00	---	.00	2.2	2.4	.86	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	9.2	---	.00	.00	---
TOTAL	.00	.00	.00	.00	.00	.00	141.08	82.2	212.58	6.85	.00	2.05
MEAN	.000	.000	.000	.000	.000	.000	4.70	2.65	7.09	.22	.000	.068
MAX	.00	.00	.00	.00	.00	.00	14	9.2	20	.76	.00	.16
MIN	.00	.00	.00	.00	.00	.00	.00	1.2	.86	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	280	163	422	14	.00	4.1

WTR YR 1979 TOTAL 444.76 MEAN 1.22 MAX 20 MIN .00 AC-FT 882

07105950 ROCK CREEK NEAR FT. CARSON, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 1978 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
APR									
03...	1430	1.7	162	--	.5	11.0	49	10	14
13...	1100	1.3	255	6.9	8.0	9.8	88	40	24
26...	1245	5.3	160	7.1	9.0	9.1	54	26	15
JUN									
29...	0935	.90	180	6.8	13.0	7.4	67	19	18

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
APR									
03...	3.5	8.8	.5	1.5	39	27	3.4	1.7	11
13...	6.9	12	.6	2.0	48	36	11	1.4	14
26...	4.1	8.8	.5	2.6	28	28	3.6	1.6	11
JUN									
29...	5.4	9.9	.5	2.0	48	25	2.9	1.6	16

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
APR								
03...	96	.46	0	.28	.030	.07	10	<1
13...	149	.56	0	3.0	.010	.02	0	1
26...	93	1.33	3	.35	.020	--	60	10
JUN								
29...	111	.27	0	.25	.000	--	10	<1

07105960 ROCK CREEK NEAR FOUNTAIN, CO

LOCATION.--Lat 38°39'16", long 104°44'48", in NE¼SW¼ sec.14, T.16 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on left bank at edge of Military Road No. 1 on Ft. Carson Military Reservation, 1.1 mi (1.8 km) upstream from mouth at Little Fountain Creek and 3.2 mi (5.1 km) southwest of Fountain.

DRAINAGE AREA.--16.9 mi² (43.8 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1978 to current year.

GAGE.--Water-stage recorder and steel v-notch weir. Altitude of gage is 5,600 ft (1,707 m) from topographic map.

REMARKS.--Records good except those above 10 ft³/s (0.28 m³/s) which are poor. Diversions above this station for irrigation and recreation, amounts unknown.

EXTREMES FOR CURRENT YEAR.--Maximum discharge for period May 23, 1978 to Sept. 30, 1979, 26 ft³/s (0.74 m³/s) at 1815 Aug. 26, 1979, gage height, 2.32 ft (0.707 m); minimum daily, 0.01 ft³/s (0.001 m³/s) Aug. 31-Sept. 12, 1978.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								---	.04	.03	.04	.01
2								---	.04	.03	.04	.01
3								---	.03	.03	.05	.01
4								---	.03	.03	.05	.01
5								---	.03	.03	.05	.01
6								---	.03	.03	.05	.01
7								---	.03	.03	.05	.01
8								---	.03	.03	.04	.01
9								---	.03	.03	.04	.01
10								---	.03	.03	.04	.01
11								---	.03	.03	.04	.01
12								---	.02	.03	.04	.01
13								---	.02	.36	.04	.02
14								---	.02	.04	.04	.02
15								---	.02	.04	.04	.02
16								---	.02	.04	.04	.02
17								---	.02	.04	.04	.02
18								---	.02	.04	.05	.04
19								---	.03	.04	.04	.04
20								---	.03	.04	.04	.05
21								---	.03	.04	.03	.05
22								---	.03	.04	.03	.05
23								.07	.03	.04	.03	.04
24								.06	.03	.04	.03	.04
25								.06	.03	.04	.02	.04
26								.06	.03	.04	.03	.04
27								.05	.03	.04	.02	.04
28								.05	.03	.04	.02	.04
29								.04	.03	.04	.02	.04
30								.05	.03	.04	.02	.04
31								.04	---	.04	.01	---
TOTAL								---	.85	1.44	1.12	.77
MEAN								---	.028	.046	.036	.026
MAX								---	.04	.36	.05	.05
MIN								---	.02	.03	.01	.01
AC-FT								---	1.7	2.9	2.2	1.5

07105960 ROCK CREEK NEAR FOUNTAIN, CO--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.04	.08	.06	.06	.28	.06	.04	.03	.07	.11	.10	.11
2	.04	.08	.06	.06	.13	.06	.04	.05	4.9	.11	.09	.11
3	.05	.08	.06	.06	.12	.06	.07	.05	7.0	.26	.08	.09
4	.05	.08	.06	.06	.13	.06	.05	.04	7.1	.15	.08	.09
5	.04	.08	.06	.06	.13	.06	.04	.04	6.7	.12	.08	.08
6	.05	.08	.06	.06	.12	.06	.04	.04	6.1	.18	.08	.09
7	.05	.08	.06	.06	.12	.06	.04	.04	5.7	1.3	.08	.09
8	.05	.08	.06	.06	.12	.06	.04	.05	7.0	1.2	.08	.09
9	.05	.08	.06	.06	.12	.06	.03	.04	11	.77	.13	.09
10	.05	.06	.06	.06	.12	.06	.10	.05	13	.21	.10	.09
11	.05	.06	.06	.07	.12	.06	.05	.04	12	.18	.09	.10
12	.05	.06	.06	.08	.12	.06	.04	.04	9.5	.15	.07	.11
13	.06	.07	.06	.08	.12	.06	.04	.04	8.3	.12	.07	.11
14	.06	.06	.06	.08	.11	.06	.03	.04	7.1	.12	.19	.18
15	.05	.07	.06	.09	.09	.06	.03	.05	6.0	.12	.07	.11
16	.05	.07	.06	.10	.08	.06	.03	.04	5.1	.12	.05	.11
17	.06	.07	.06	.10	.08	.06	.03	.05	4.3	.12	.05	.10
18	.06	.07	.06	.10	.08	.07	.03	.05	3.6	.15	.06	.09
19	.06	.06	.06	.10	.08	.07	.03	.04	2.9	.13	.05	.11
20	.06	.06	.06	.10	.08	.08	.03	.05	2.1	.12	.05	.11
21	.07	.06	.06	.10	.08	.12	.03	.05	1.3	.12	.05	.09
22	.10	.06	.06	.10	.07	.08	.03	.05	.49	.10	.05	.09
23	.10	.06	.06	.12	.07	.08	.03	.05	.17	.12	.05	.09
24	.10	.06	.06	.10	.06	.08	.03	.05	.15	.12	.05	.09
25	.08	.06	.06	.10	.06	.06	.03	.05	.13	.54	.05	.09
26	.08	.06	.06	.10	.06	.06	.03	.05	.12	.91	2.6	.10
27	.08	.06	.06	.12	.06	.06	.03	.04	.12	.11	.21	.10
28	.08	.06	.06	.10	.06	.06	.03	.05	.12	.10	.16	.11
29	.08	.06	.06	.10	---	.05	.03	.04	.11	.09	.13	.09
30	.09	.06	.06	.10	---	.04	.03	.13	.11	.09	.13	.09
31	.09	---	.06	.20	---	.04	---	.15	---	.10	.12	---
TOTAL	1.98	2.03	1.86	2.74	2.87	1.97	1.13	1.58	132.29	8.14	5.25	3.00
MEAN	.064	.068	.060	.088	.10	.064	.038	.051	4.41	.26	.17	.10
MAX	.10	.08	.06	.20	.28	.12	.10	.15	13	1.3	2.6	.18
MIN	.04	.06	.06	.06	.06	.04	.03	.03	.07	.09	.05	.08
AC-FT	3.9	4.0	3.7	5.4	5.7	3.9	2.2	3.1	262	16	10	6.0

WTR YR 1979 TOTAL 164.84 MEAN .45 MAX 13 MIN .03 AC-FT 327

07105960 ROCK CREEK NEAR FOUNTAIN, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 1978 to current year.

REMARKS.--Data collected in 1978 water year are published in this report.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
JUL 13...	1830	2.8	295	7.1	13.0	8.0	50	0	14	3.6

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
JUL 13...	7.1	.4	11	90	19	4.1	.5	3.1	121

DATE	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JUL 13...	.72	.61	5.0	5.7	1.80	.420	.26	160	20

DATE	TIME	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)
JUL 13...	1830	130	2	600	0	120	0	50	63

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
JUL 13...	54000	52	1500	.2	2	51	2	0	260

07105960 ROCK CREEK NEAR FOUNTAIN, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
APR								
12...	1340	.04	1200	7.8	9.0	9.2	360	97
25...	1630	.03	900	7.5	12.0	8.0	420	160
JUN								
27...	1115	.11	1000	7.4	16.0	8.9	310	93

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
APR									
12...	90	32	120	2.8	2.1	280	310	31	2.1
25...	120	30	120	2.5	1.9	280	330	31	2.2
JUN									
27...	79	28	95	2.3	2.2	220	270	17	2.3

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
APR								
12...	12	756	8	.04	.000	.05	40	20
25...	12	803	4	.00	.010	--	30	20
JUN								
27...	11	637	4	.01	.010	--	20	40

DATE	TIME	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)
AUG									
26...	1800	110000	20	1300	0	100	2	120	120

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
AUG									
26...	110000	130	3600	.3	0	92	5	0	500

07106300 FOUNTAIN CREEK NEAR PINON, CO

LOCATION.--Lat 38°26'50", long 104°35'28", in NE¼NE¼ sec.31, T.18 S., R.64 W., Pueblo County, Hydrologic unit 11020002, near left bank on downstream side of county road bridge, 1.2 mi (1.9 km) northeast of Pinon, and 3.2 mi (5.1 km) upstream from Steele Hollow Creek.

DRAINAGE AREA.--846 mi² (2,191 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1973 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,005 ft (1,526 m), from topographic map. Prior to Apr. 23, 1976, nonrecording gage at same site and datum.

REMARKS.--Records fair except those above 1,800 ft³/s (51.0 m³/s) and those Dec. 6 to Feb. 14, which are poor. Natural flow of stream affected by storage reservoirs, power developments, transbasin and transmountain diversions municipal use, diversions above station for irrigation of about 10,000 acres (40 km²) and municipal use, and return flow from irrigated areas.

AVERAGE DISCHARGE.--6 years, 42.0 ft³/s (1.189 m³/s), 30,430 acre-ft/yr (37.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,680 ft³/s (133 m³/s) Aug. 3, 1976, gage height, 6.06 ft (1.847 m), from rating curve extended above 1,650 ft³/s (47 m³/s); no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,640 ft³/s (74.8 m³/s) at 1700 May 20, gage height, 4.99 ft (1.521 m), from rating curve extended above 1,650 ft³/s (47 m³/s); no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	10	11	22	11	79	130	84	329	8.0	7.2	.00
2	.00	9.7	9.6	19	14	76	95	81	221	10	.00	.00
3	.00	12	7.4	17	16	80	100	125	147	15	.00	.00
4	.00	7.9	14	15	18	86	156	85	141	40	.00	.00
5	.00	8.7	20	14	21	99	169	75	120	80	.00	.00
6	.00	6.2	15	14	30	84	163	65	132	20	.00	.00
7	.00	4.6	14	14	40	87	164	130	141	25	.00	.00
8	.00	3.6	12	14	50	92	111	85	383	30	.00	.00
9	.00	1.4	12	15	70	113	121	60	414	25	.00	.00
10	.00	.00	15	16	90	90	118	90	248	3.6	.00	.00
11	.00	.43	30	19	110	85	322	58	210	3.2	.00	.00
12	.00	3.8	50	20	70	85	211	66	134	.85	.00	.00
13	.00	.09	70	19	60	86	110	58	120	.00	.00	.00
14	.00	5.1	60	17	130	76	125	43	136	.00	7.3	80
15	.00	6.4	55	15	112	74	140	25	119	.00	47	17
16	.00	4.8	70	20	75	82	240	12	130	.00	2.8	10
17	.00	4.9	80	25	69	56	230	16	85	.00	.47	4.0
18	.00	4.2	70	30	91	97	240	35	75	65	.18	2.5
19	.00	4.2	70	30	83	81	195	22	62	96	2.1	1.5
20	.00	5.1	65	25	85	83	185	579	60	28	.00	.80
21	.00	5.8	60	25	106	144	290	271	45	.97	.00	.40
22	124	3.8	50	30	113	251	220	173	28	.00	.00	.25
23	16	3.1	45	30	116	231	170	166	14	.00	.00	.20
24	4.4	3.5	40	26	100	174	125	218	140	36	.00	.08
25	10	4.2	40	22	71	158	105	286	110	108	.00	.00
26	15	11	40	18	72	130	116	241	65	158	198	.00
27	5.7	11	35	14	80	105	108	152	30	41	379	.00
28	4.0	7.0	40	12	66	85	113	131	50	21	37	.00
29	3.4	7.5	35	11	---	180	105	142	110	.66	26	.00
30	6.0	11	30	11	---	100	96	246	50	.00	11	.00
31	8.2	---	25	10	---	90	---	703	---	57	.00	---
TOTAL	196.70	173.02	1190.0	589	1959	3341	4773	4523	4049	872.28	718.05	116.73
MEAN	6.35	5.77	38.4	19.0	70.0	106	159	146	135	28.1	23.2	3.89
MAX	124	12	80	30	130	251	322	703	414	158	379	80
MIN	.00	.00	7.4	10	11	58	95	12	14	.00	.00	.00
AC-FT	390	343	2360	1170	3890	6630	9470	8970	8030	1730	1420	232

CAL YR 1978 TOTAL 9017.41 MEAN 24.7 MAX 640 MIN .00 AC-FT 17890
WTR YR 1979 TOTAL 22500.78 MEAN 61.6 MAX 703 MIN .00 AC-FT 44630

07106300 FOUNTAIN CREEK NEAR PINON, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1976 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Current year.
WATER TEMPERATURE: Current year.

INSTRUMENTATION.--Water-quality monitor since October 1976.

REMARKS.--Records poor. Daily maximum and minimum specific-conductance data available in district office.

EXTREMES FOR PERIOD OF RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 5,070 micromhos July 24, 1979; minimum, 204 micromhos several days in Oct. and Nov.
WATER TEMPERATURES: Maximum, 34.5°C July 24, 1977; minimum, freezing point on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 5,070 micromhos July 24; 204 micromhos several days in Oct. and Nov.
WATER TEMPERATURES: Maximum, 34.0°C June 22; minimum, freezing point on many days during winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)
APR 11...	1730	163	916	7.9	7.0	9.0	28	K450	270	140	74
MAY 11...	1600	55	1200	8.3	22.0	7.4	10	K3800	370	200	100
JUN 22...	1600	211	1300	8.3	26.5	6.4	1.0	24	400	220	110

DATE	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)
APR 11...	20	90	2.4	--	130	280	31	1.3	8.4	--	--
MAY 11...	30	120	2.7	--	170	360	52	2.1	13	--	--
JUN 22...	31	97	2.1	6.5	180	360	48	2.4	18	781	1.06

DATE	SOLIDS, DISSOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
APR 11...	--	3610	2.4	.30	2.7	.45	5.6	6.0	8.7	2.80
MAY 11...	--	149	2.9	.10	3.0	.16	.84	1.0	4.0	1.30
JUN 22...	445	63	2.1	.02	2.1	.03	.58	.61	2.7	.060

K BASED ON NON-IDEAL COLONY COUNT.

07106300 FOUNTAIN CREEK NEAR PINON, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, HEXAVALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)
APR								
11...	1730	0	24	2	60	0	130	78000
JUN								
22...	1600	0	3	10	10	0	30	2000

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
APR								
11...	5	2400	20	.3	90	10	1	500
JUN								
22...	10	60	5	.1	10	3	0	50

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---	1850	---	---	1150	1170	---	---	1240	---	---
2		---	1610	---	---	1140	1180	---	---	1320	---	---
3		---	1600	---	---	934	1160	---	---	1240	---	---
4		900	1700	---	---	1010	1180	---	---	1230	---	---
5		950	1770	---	---	1040	1200	---	850	1200	---	---
6		---	---	---	---	1100	1030	---	---	1160	---	---
7		---	---	---	---	1170	1050	---	---	1170	---	---
8		---	---	---	---	1090	1050	---	---	1220	---	---
9		---	---	---	---	851	1000	---	---	1110	---	---
10		---	---	---	---	879	950	---	---	1130	---	---
11		---	---	---	---	950	910	1200	---	1100	---	---
12		---	---	---	1300	1000	1000	---	---	1100	---	---
13		---	---	---	1320	1100	1100	---	---	---	---	---
14		---	---	---	1390	1260	1200	---	---	---	---	---
15		---	---	---	1430	1270	1280	---	---	---	---	---
16		---	---	---	1400	1320	1360	---	---	---	---	---
17		---	---	---	1230	1380	1290	---	---	---	---	---
18		---	---	---	1150	911	1260	---	---	1200	---	---
19		---	---	---	1170	860	1280	---	---	1200	---	1400
20		---	---	---	1300	715	1320	---	---	1200	---	---
21		---	---	---	1260	616	1380	---	1200	1200	---	---
22		---	---	---	1180	557	1480	---	1320	---	---	---
23		---	---	---	1330	673	1560	---	1170	---	---	---
24		---	1080	2000	1210	730	1490	---	1200	---	---	---
25		---	1080	---	1200	835	985	---	1250	---	---	---
26		---	1100	---	1240	898	1000	---	1380	---	1020	---
27		---	1120	---	1060	962	---	---	1310	---	816	---
28		---	1120	---	1020	1020	---	---	1250	---	887	---
29		1620	1220	---	---	1180	---	---	1300	---	919	---
30		1650	---	---	---	1330	---	---	1270	---	1020	---
31		---	---	---	---	1200	---	---	---	---	---	---

07106300 FOUNTAIN CREEK NEAR PINON, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	11.0	3.0	8.5	2.0			---	---	13.0	10.5
2	---	---	22.5	.5	3.0	.5			---	---	12.0	9.5
3	---	---	21.0	5.0	1.5	1.0			---	---	11.5	9.0
4	---	---	23.0	5.0	4.0	1.0			---	---	12.0	9.0
5	---	---	11.0	1.0	4.0	1.0			---	---	12.0	10.5
6	---	---	11.0	1.0	3.0	.0			---	---	14.0	13.5
7	---	---	15.5	.5	3.0	.0			---	---	14.5	12.0
8	---	---	---	---	1.5	.0			---	---	14.0	12.0
9	---	---	---	---	1.0	.0			---	---	11.5	9.0
10	---	---	---	---	1.0	.0			---	---	12.0	9.5
11	---	---	---	---	.0	.0			---	---	---	---
12	---	---	---	---	.0	.0			---	---	---	---
13	---	---	---	---	1.0	.0			3.5	2.0	---	---
14	---	---	---	---	1.0	.0			6.0	2.5	11.0	9.0
15	---	---	---	---	.5	.0			7.0	4.0	11.5	9.0
16	---	---	---	---	.0	.0			6.5	4.0	11.5	9.0
17	---	---	---	---	.0	.0			7.5	5.0	12.0	9.5
18	---	---	---	---	.0	.0			7.5	5.5	10.0	9.0
19	---	---	---	---	.0	.0			8.5	6.5	---	---
20	---	---	---	---	.0	.0			8.5	7.0	---	---
21	---	---	---	---	.5	.0			9.5	7.0	---	---
22	10.0	1.0	---	---	1.0	.0			10.0	8.0	---	---
23	8.5	1.0	---	---	1.5	.0			11.0	7.5	---	---
24	15.0	1.0	---	---	1.5	.0			11.5	9.0	---	---
25	10.0	.0	---	---	.5	.0			12.0	8.5	14.5	10.0
26	9.0	.0	---	---	.5	.0			11.5	10.5	11.0	10.5
27	13.5	1.0	---	---	.5	.0			11.0	9.0	14.5	11.0
28	15.0	1.0	---	---	.5	.0			12.0	7.5	17.5	12.5
29	24.0	1.0	6.5	2.0	.0	.0			---	---	15.0	11.0
30	17.5	1.5	5.0	.5	---	---			---	---	12.0	8.5
31	16.5	1.0	---	---	---	---			---	---	10.0	6.0
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	4.0	1.0			---	---	28.5	10.5	---	---	---	---
2	4.0	1.0			---	---	30.0	11.0	---	---	---	---
3	3.5	1.0			---	---	28.0	12.0	---	---	---	---
4	8.0	3.0			---	---	29.0	13.0	---	---	---	---
5	10.0	7.0			---	---	23.5	10.0	---	---	---	---
6	10.0	9.0			---	---	14.0	10.0	---	---	---	---
7	15.0	8.5			---	---	30.0	15.0	---	---	---	---
8	15.0	10.5			---	---	30.0	12.0	---	---	---	---
9	15.5	12.5			---	---	29.0	11.0	---	---	---	---
10	16.5	10.0			---	---	18.5	10.0	---	---	---	---
11	8.0	6.5			---	---	33.0	15.0	---	---	---	---
12	7.0	5.0			---	---	33.0	15.0	---	---	---	---
13	7.0	4.0			---	---	---	---	---	---	---	---
14	12.5	3.5			---	---	---	---	---	---	---	---
15	16.0	8.0			---	---	---	---	---	---	---	---
16	17.0	12.5			---	---	---	---	---	---	---	---
17	17.5	15.5			---	---	---	---	---	---	---	---
18	18.0	15.5			---	---	---	---	---	---	---	---
19	16.0	15.0			---	---	29.0	13.0	---	---	---	---
20	15.0	14.0			---	---	30.0	13.0	---	---	---	---
21	18.0	14.0			21.0	20.0	33.0	15.0	---	---	---	---
22	17.0	15.5			34.0	21.0	---	---	---	---	---	---
23	18.5	16.0			27.0	15.0	---	---	---	---	---	---
24	19.0	15.0			21.0	11.0	31.0	14.0	---	---	22.5	17.5
25	15.0	10.0			25.0	14.0	32.0	15.0	---	---	---	---
26	16.0	10.0			25.0	14.0	---	---	27.0	16.0	---	---
27	---	---			30.5	17.0	---	---	28.0	7.0	---	---
28	---	---			27.0	15.0	---	---	27.5	7.0	---	---
29	---	---			30.0	12.0	---	---	29.0	12.0	---	---
30	---	---			29.5	14.0	---	---	---	---	---	---
31	---	---			---	---	---	---	---	---	---	---

07106900 FOUNTAIN CREEK AT PUEBLO, CO

LOCATION.--Lat 38°17'16", long 104°36'02", in SE¼SW¼ sec.19, T.20 S., R.64 W., Pueblo County, Hydrologic Unit 11020003, on right bank at upstream side of bridge on U.S. Highway 50 at Pueblo and 2.6 mi (4.2 km) upstream from mouth.

DRAINAGE AREA.--926 mi² (2,398 km²), revised.

PERIOD OF RECORD.--January 1922 to September 1925, October 1940 to September 1965, February 1971 to current year. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Altitude of gage is 4,705 ft (1,434 m), from topographic map. See WSP 1711 or 1731 for history of changes prior to Oct. 1, 1940, and WSP 1921 for changes prior to Sept. 30, 1965. Feb. 1, 1971, to Sept. 30, 1976, water-stage recorder at site 1.4 mi (2.3 km) upstream at datum 4,725.30 ft (1,440.271 m), National Geodetic Vertical Datum of 1929 (unadjusted).

REMARKS.--Records good except those above 600 ft³/s (17.0 m³/s) and those for winter period, which are fair. Natural flow of stream affected by storage reservoirs, power developments, transbasin and transmountain diversions for municipal use, diversions for irrigation of about 14,000 acres (57 km²) above station and municipal use, and return flow from irrigated areas. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--36 years (water years 1923-25, 1941-65, 1972-79), 53.4 ft³/s (1.512 m³/s), 38,690 acre-ft/yr (47.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,000 ft³/s (1,330 m³/s) June 17, 1965, gage height, 19.0 ft (5.79 m), from floodmarks, site and datum then in use, from rating curve extended above 400 ft³/s (11 m³/s), on basis of contracted-opening measurement of peak flow; no flow at times many years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1903, that of June 17, 1965. Flood of June 4, 1921, reached a discharge of 34,000 ft³/s (963 m³/s), by slope-area measurement. Flood of May 30, 1935, reached a discharge of 35,000 ft³/s (991 m³/s), by slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 946 ft³/s (26.8 m³/s) at 2000 May 20, gage height, 3.23 ft (0.984 m); minimum daily, 0.07 ft³/s (0.002 m³/s) Sept. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.39	10	14	22	12	87	92	55	304	2.7	8.4	8.7
2	.22	11	14	19	15	80	95	52	247	3.5	1.3	6.7
3	.34	11	14	17	18	78	103	112	192	3.9	.50	6.0
4	.27	13	20	15	20	78	118	123	166	27	3.9	2.8
5	.46	12	30	14	23	80	177	99	152	70	4.1	1.3
6	.57	10	25	14	35	81	173	89	144	20	.67	.93
7	.56	8.2	20	14	45	80	129	82	135	52	.24	1.2
8	.80	5.7	16	14	60	80	126	77	244	16	.26	1.0
9	.80	3.9	15	14	75	97	128	73	348	14	.27	.76
10	.72	5.6	15	17	104	97	122	91	290	3.7	13	.56
11	.72	4.7	30	20	105	89	352	81	250	.63	1.8	.42
12	.59	5.1	50	20	68	86	201	75	208	.62	.67	.23
13	.54	7.0	80	18	49	85	135	72	167	.41	.62	.07
14	.72	6.1	60	15	67	85	123	69	154	.42	3.7	10
15	.90	9.7	80	15	221	85	121	53	141	14	65	8.0
16	.90	11	70	20	152	84	123	34	135	5.5	33	6.3
17	.80	12	60	26	100	80	145	25	109	1.3	6.3	5.4
18	.80	11	60	30	87	116	165	58	92	48	1.3	4.1
19	.79	11	70	27	85	109	167	41	79	83	2.8	4.2
20	.80	12	70	23	84	107	159	302	68	31	15	3.4
21	3.3	12	54	20	83	129	143	312	54	6.4	13	2.9
22	53	13	52	34	85	249	136	205	34	2.6	1.2	2.5
23	68	12	45	15	85	148	121	158	11	.83	.47	1.8
24	20	13	36	15	82	177	114	123	136	2.0	.70	1.6
25	15	14	43	20	82	136	114	116	192	123	.90	1.3
26	25	13	37	18	82	115	118	260	78	142	.51	1.3
27	20	14	32	15	86	111	98	132	32	53	276	1.1
28	13	12	43	12	83	102	81	111	61	31	67	.90
29	8.0	11	35	11	---	102	72	105	103	10	20	.90
30	6.1	12	30	11	---	95	60	104	14	3.9	16	.90
31	6.1	---	26	10	---	90	---	417	---	25	11	---
TOTAL	250.19	306.0	1246	555	2093	3218	4011	3706	4340	797.41	569.61	87.27
MEAN	8.07	10.2	40.2	17.9	74.8	104	134	120	145	25.7	18.4	2.91
MAX	68	14	80	34	221	249	352	417	348	142	276	10
MIN	.22	3.9	14	10	12	78	60	25	11	.41	.24	.07
AC-FT	496	607	2470	1100	4150	6380	7960	7350	8610	1580	1130	173

CAL YR 1978 TOTAL 9932.18 MEAN 27.2 MAX 782 MIN .03 AC-FT 19700
WTR YR 1979 TOTAL 21179.48 MEAN 58.0 MAX 417 MIN .07 AC-FT 42010

07107900 GREENHORN CREEK NEAR RYE, CO

LOCATION.--Lat 37°55'14", long 104°57'21", in SW¼NW¼ sec.36, T.24 S., R.68 W., Pueblo County, Hydrologic Unit 11020002, in midstream, 15 ft (5 m) upstream from road bridge in Rye Park and 1.4 mi (2.3 km) west of Post Office in Rye.

DRAINAGE AREA.--9.56 mi^2 (24.76 km^2).

PERIOD OF RECORD.--October 1973 to September 1979 (discontinued).

GAGE.--Water-stage recorder. Altitude of gage is 7,220 ft (2,201 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--6 years, 4.14 ft^3/s (0.117 m^3/s), 3,000 acre-ft/yr (3.70 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 340 ft^3/s (9.63 m^3/s) July 10, 1975, gage height, 3.90 ft (1.189 m), from floodmark, from rating curve extended above 25 ft^3/s (0.7 m^3/s), on basis of slope-area measurement of peak discharge; minimum daily, 0.60 ft^3/s (0.017 m^3/s) Nov. 13-16, 1978.

EXTREMES FOR CURRENT YEAR.--Peak discharges aobve base of 20 ft^3/s (0.57 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
May 21	1830	27	0.76	0.91	0.277	June 3	1845	*28	0.79	0.92	0.280
May 28	2215	27	0.76	0.91	0.277	June 10	1845	27	0.76	0.91	0.277

Minimum daily discharge, 0.60 ft^3/s (0.017 m^3/s) Nov. 13-16.

CORRECTIONS.--The maximum discharge for water year 1977 occurred July 25, the previously published date was not correct.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	1.4	1.1	1.0	1.4	1.8	2.2	4.1	18	8.1	4.0	2.1
2	1.0	1.4	1.1	1.0	1.3	1.8	3.3	4.8	20	8.0	3.2	2.0
3	1.1	1.4	1.0	1.0	1.4	1.9	2.5	4.2	20	7.9	2.8	2.0
4	1.1	1.5	.85	1.1	1.5	2.9	5.9	4.2	19	7.8	3.0	1.9
5	1.1	1.5	.80	1.1	1.5	3.0	1.8	5.8	18	6.6	4.4	1.7
6	1.1	1.1	.80	1.1	1.5	2.3	2.0	7.9	18	6.3	4.1	1.8
7	1.0	.80	.90	1.1	1.5	2.3	3.3	9.0	18	6.2	4.0	2.1
8	1.0	.80	1.0	1.1	1.5	2.7	4.8	8.1	19	5.7	4.5	2.0
9	1.0	.70	1.2	1.1	1.5	2.8	4.6	5.8	20	5.3	4.6	1.8
10	1.0	.70	1.4	1.1	1.6	3.5	3.4	4.1	23	4.8	6.7	1.8
11	1.0	.90	1.5	1.1	1.5	3.3	2.7	2.8	25	4.5	6.5	2.1
12	1.0	.90	1.5	1.1	1.5	3.6	2.1	2.1	23	4.3	5.3	2.9
13	1.0	.60	1.5	1.1	1.6	3.5	2.2	1.9	21	4.2	5.6	2.5
14	1.1	.60	1.5	1.1	1.5	3.2	2.6	3.3	20	3.9	16	3.4
15	1.1	.60	1.5	1.1	1.5	3.2	4.0	5.4	19	5.3	13	3.2
16	1.1	.60	1.5	1.1	1.5	3.1	5.3	7.5	17	6.1	9.8	2.8
17	1.1	.65	1.5	1.1	2.1	3.0	7.0	14	15	5.5	6.8	2.4
18	1.1	.66	1.5	1.2	2.5	2.5	7.2	17	13	5.3	10	2.3
19	1.1	.70	1.5	1.3	2.0	2.5	7.0	20	12	5.7	5.9	2.3
20	1.1	.75	1.5	1.4	1.8	2.7	5.9	19	10	4.5	3.8	2.2
21	1.4	.80	1.5	1.5	1.8	2.1	3.9	21	9.8	3.9	3.0	3.6
22	2.9	.80	1.5	1.5	1.7	2.2	2.8	21	9.5	3.8	2.5	3.1
23	1.9	.80	1.5	1.5	1.9	2.3	4.3	20	9.3	3.2	3.0	2.4
24	2.7	.80	1.5	1.5	2.2	2.4	6.3	20	9.8	3.1	2.9	1.8
25	3.1	.78	1.5	1.5	2.3	2.9	6.5	18	11	3.7	2.8	1.7
26	1.7	.75	1.5	1.5	2.2	3.5	5.6	19	9.4	3.6	2.6	1.6
27	1.7	.75	1.5	1.4	1.9	3.4	5.6	18	8.7	3.5	2.5	1.6
28	1.5	.75	1.5	1.4	1.8	3.9	5.6	20	8.3	3.2	2.4	1.6
29	1.5	.85	1.3	1.4	---	4.0	5.2	21	8.7	3.1	2.6	1.6
30	1.5	1.0	1.1	1.4	---	2.8	4.4	17	8.3	4.2	2.3	1.5
31	1.4	---	1.0	1.4	---	2.2	---	19	---	4.7	2.2	---
TOTAL	42.4	26.34	40.55	38.3	48.0	87.3	130.0	365.0	460.8	156.0	152.8	65.8
MEAN	1.37	.88	1.31	1.24	1.71	2.82	4.33	11.8	15.4	5.03	4.93	2.19
MAX	3.1	1.5	1.5	1.5	2.5	4.0	7.2	21	25	8.1	16	3.6
MIN	1.0	.60	.80	1.0	1.3	1.8	1.8	1.9	8.3	3.1	2.2	1.5
AC-FT	84	52	80	76	95	173	258	724	914	309	303	131

CAL YR 1978 TOTAL 688.59 MEAN 1.89 MAX 12 MIN .60 AC-FT 1370
WTR YR 1979 TOTAL 1613.29 MEAN 4.42 MAX 25 MIN .60 AC-FT 3200

07108050 GREENHORN CREEK NEAR COLORADO CITY, CO

LOCATION.--Lat 37°56'59", long 104°48'07", in NE¼NW¼ sec.20, T.24 S., R.66 W., Pueblo County, Hydrologic Unit 11020002, on right bank under downstream bridge on U.S. Interstate Highway 25, 1.8 mi (2.9 km) upstream from Graneros Creek, and 1.8 mi (2.9 km) east of fire station in Colorado City. Prior to Oct. 1, 1976, at site 0.5 mi (0.8 km) downstream.

DRAINAGE AREA.--29.6 mi² (76.7 km²) (revised).

PERIOD OF RECORD.--February 1974 to September 1979 (discontinued).

REVISED RECORDS.--WDR CO-75-1: 1974(M).

GAGE.--Water-stage recorder. Altitude of gage is 5,650 ft (1,722 m), from topographic map. Prior to Oct. 1, 1976, at site 0.5 mi (0.8 km) downstream at different datum.

REMARKS.--Records good except those above 10 ft³/s (0.28 m³/s), which are fair and those for winter period, which are poor. Diversions for irrigation of about 4,300 acres (17.4 km²) above station. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--5 years (water years 1975-79), 2.12 ft³/s (0.060 m³/s), 1,540 acre-ft/yr (1.90 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 1,800 ft³/s (51.0 m³/s) Aug. 2, 1976, gage height, 5.3 ft (1.62 m), from floodmarks, result of slope-area measurement of peak flow; minimum daily, 0.03 ft³/s (0.001 m³/s) Sept. 8, 9, 1973.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 344 ft³/s (9.74 m³/s) at 0545 Aug. 14, gage height, 3.27 ft (0.997 m) from rating curve extended above 10 ft³/s (0.28 m³/s) on basis of slope-area measurement of peak flow; minimum daily, 0.15 ft³/s (0.004 m³/s) Oct. 3-11, 14, 24, Nov. 5.

REVISIONS.--The maximum discharge for water year 1976 has been revised to about 1,800 ft³/s (51.0 m³/s), Aug. 2, 1976, gage height, 5.3 ft (1.62 m), from floodmarks; this figure supersedes that published in WDR CO-76-1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.18	.24	.24	.26	.25	.56	.78	.93	8.6	.57	.65	.74
2	.16	.21	.26	.25	.25	.62	.76	1.1	8.1	.56	.74	.73
3	.15	.18	.28	.25	.25	.69	.70	1.5	7.5	.58	.77	.72
4	.15	.18	.25	.27	.27	.70	.66	1.3	5.5	.56	.75	.62
5	.15	.15	.24	.29	.30	.70	.62	1.4	5.2	.59	.72	.58
6	.15	.18	.24	.30	.31	.67	.65	1.8	6.5	.57	.81	.55
7	.15	.24	.22	.29	.33	.54	.67	3.0	7.7	.57	.81	.56
8	.15	.18	.20	.26	.36	.44	.67	3.1	10	.59	.79	.56
9	.15	.18	.20	.25	.40	.51	.68	2.1	12	.66	.82	.52
10	.15	.18	.21	.25	.43	.50	.75	1.6	9.9	.58	.90	.46
11	.15	.18	.23	.25	.47	.52	.78	1.4	20	.52	.97	.45
12	.18	.21	.25	.27	.50	.54	.69	1.3	20	.46	1.0	.49
13	.18	.18	.28	.29	.50	.52	.64	1.3	12	.41	1.1	.54
14	.15	.24	.29	.30	.50	.52	.66	1.3	11	.49	36	.65
15	.18	.21	.27	.31	.48	.54	.66	1.3	9.1	.51	4.8	.67
16	.18	.24	.26	.33	.40	.61	.68	1.2	7.5	.80	1.9	.66
17	.18	.25	.25	.34	.40	.63	.68	2.6	6.1	2.1	1.2	.47
18	.18	.25	.33	.35	.42	.60	.65	4.8	6.1	2.7	2.9	.45
19	.21	.24	.35	.35	.45	.65	.64	6.9	6.1	.69	2.0	.43
20	.21	.24	.33	.35	.48	.72	.62	6.3	5.3	.51	1.5	.41
21	.21	.24	.33	.35	.53	.68	.61	8.3	4.5	.60	1.2	.41
22	.21	.24	.35	.35	.60	.86	.61	9.7	3.9	.56	1.6	.44
23	.18	.24	.34	.35	.65	.79	.61	6.5	3.4	.57	.86	.50
24	.15	.24	.35	.35	.70	.82	.59	7.6	3.9	.56	.86	.45
25	.21	.24	.31	.35	.70	.78	.60	5.3	4.2	.60	.95	.45
26	.21	.24	.31	.31	.70	.75	.65	5.9	3.2	.54	.95	.38
27	.38	.24	.32	.28	.65	.72	.70	5.5	2.5	.50	1.0	.37
28	.38	.24	.32	.25	.55	.68	.86	4.4	1.9	.47	.86	.34
29	.38	.24	.32	.30	---	.67	.91	7.0	2.3	.49	.86	.35
30	.33	.24	.31	.30	---	.68	.93	7.2	1.3	.54	.80	.34
31	.28	---	.28	.30	---	.72	---	7.1	---	.61	.76	---
TOTAL	6.26	6.56	8.72	9.30	12.83	19.93	20.71	120.73	215.3	21.06	71.83	15.29
MEAN	.20	.22	.28	.30	.46	.64	.69	3.89	7.18	.68	2.32	.51
MAX	.38	.25	.35	.35	.70	.86	.93	9.7	20	2.7	36	.74
MIN	.15	.15	.20	.25	.25	.44	.59	.93	1.3	.41	.65	.34
AC-FT	12	13	17	18	25	40	41	239	427	42	142	30

CAL YR 1978 TOTAL 231.17 MEAN .63 MAX 8.2 MIN .15 AC-FT 459
WTR YR 1979 TOTAL 528.52 MEAN 1.45 MAX 36 MIN .15 AC-FT 1050

NOTE.--NO GAGE-HEIGHT RECORD JAN. 5 TO FEB. 26.

07108900 ST. CHARLES RIVER AT VINELAND, CO

LOCATION.--Lat 38°14'44", long 104°29'09", in NE¼SW¼ sec.6, T.21 S., R.63 W., Pueblo County, Hydrologic Unit 11020002, on right bank at right downstream end of downstream bridge on U.S. Highway 50C, 1.6 mi (2.6 km) west of Vineland, and 3.0 mi (3.9 km) upstream from mouth.

DRAINAGE AREA.--474 mi² (1,228 km²).

PERIOD OF RECORD.--October 1978 to September 1979.

GAGE.--Water-stage recorder. Datum of gage is 4,581.58 ft (1,396.465 m) (Colorado Division of Highways benchmark).

REMARKS.--Records fair except those for periods of no gage-height record and those above 100 ft³/s (2.8 m³/s) which are poor. Natural flow of stream affected by diversions above station for irrigation of about 8,500 acres (34.4 km²), and for industrial uses, and return flow from land irrigated by Bessemer Ditch. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1901, 56,000 ft³/s (1,590 m³/s) at a site 5.0 mi (8.0 km) upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 342 ft³/s (9.69 m³/s), at 0130 Aug. 10, gage height, 6.62 ft (2.018 m) from rating curve extended above 120 ft³/s (3.40 m³/s); minimum daily, 0.25 ft³/s (0.007 m³/s) Apr. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	5.0	6.4	7.2	9.5	7.1	9.3	2.7	28	4.5	5.5	8.6
2	3.0	5.0	7.1	6.8	8.8	8.8	9.3	8.3	31	4.8	5.3	8.2
3	3.0	5.0	8.1	7.7	7.5	7.2	9.3	9.0	28	6.8	5.9	8.5
4	3.0	5.0	8.5	8.2	7.0	9.4	7.3	11	27	5.3	3.8	6.2
5	3.0	5.0	8.9	8.6	7.0	8.9	7.0	12	24	8.0	3.4	4.5
6	3.0	5.0	8.7	8.8	7.7	9.3	7.4	13	21	14	3.7	5.6
7	3.0	5.0	6.0	8.7	7.4	11	6.4	13	22	6.7	3.8	5.5
8	3.0	5.2	5.0	8.1	7.6	12	6.8	12	28	5.1	2.9	13
9	3.0	5.4	6.0	8.8	7.2	13	7.3	12	38	2.8	7.4	5.6
10	3.0	5.5	6.1	8.5	7.7	14	8.3	15	39	2.0	85	6.3
11	3.0	5.5	7.1	8.1	8.5	13	9.9	12	36	3.5	21	6.2
12	3.0	5.5	7.4	8.3	8.5	12	10	6.5	58	7.5	9.5	6.2
13	3.0	5.5	6.6	8.0	9.2	11	9.2	6.0	53	9.4	9.1	6.0
14	3.0	5.5	5.5	8.5	9.5	13	6.8	5.5	28	11	13	9.5
15	3.0	5.5	6.5	9.4	14	14	8.4	4.0	21	9.4	35	6.8
16	3.0	5.5	5.8	8.9	7.7	15	6.3	4.5	16	33	17	5.7
17	3.1	5.5	5.3	9.0	6.9	11	7.3	6.0	11	21	11	6.8
18	3.1	5.5	6.9	9.2	7.0	4.5	5.9	6.5	9.2	27	9.3	6.9
19	3.3	5.5	7.4	8.9	6.8	7.2	6.3	9.0	6.6	26	8.3	6.8
20	3.5	5.6	8.2	8.7	7.3	8.6	8.3	14	5.2	13	8.2	6.8
21	5.0	5.8	7.0	9.1	11	10	8.1	27	5.4	11	8.4	6.9
22	5.0	6.3	6.6	9.2	9.9	18	7.2	22	6.3	8.5	9.4	8.1
23	4.0	6.5	7.6	9.0	9.3	16	7.5	21	7.2	6.8	8.7	7.1
24	4.0	6.0	7.0	9.6	8.5	12	2.3	20	26	6.0	7.1	5.9
25	4.0	5.9	6.1	9.5	7.0	12	.25	18	25	22	8.0	6.6
26	4.0	5.8	5.8	9.3	7.0	10	.80	20	11	12	8.1	6.0
27	4.0	6.0	6.0	9.4	6.4	8.6	13	19	1.4	7.0	8.2	5.7
28	4.0	6.2	6.3	8.7	6.7	10	11	18	5.5	8.4	8.9	5.4
29	4.0	6.6	6.7	9.8	---	9.8	4.4	19	2.0	8.7	4.7	5.7
30	4.5	6.3	8.1	10	---	9.3	2.0	18	24	6.4	6.6	6.0
31	5.0	---	7.7	11	---	11	---	24	---	6.6	8.0	---
TOTAL	108.5	167.6	212.4	273.0	228.6	336.7	213.35	408.0	643.8	324.2	354.2	203.1
MEAN	3.50	5.59	6.85	8.81	8.16	10.9	7.11	13.2	21.5	10.5	11.4	6.77
MAX	5.0	6.6	8.9	11	14	18	13	27	58	33	85	13
MIN	3.0	5.0	5.0	6.8	6.4	4.5	.25	2.7	1.4	2.0	2.9	4.5
AC-FT	215	332	421	541	453	668	423	809	1280	643	703	403

WTR YR 1979 TOTAL 3473.45 MEAN 9.52 MAX 85 MIN .25 AC-FT 6890

NOTE.--NO GAGE-HEIGHT RECORD OCT. 1 TO NOV. 20.

07109500 ARKANSAS RIVER NEAR AVONDALE, CO

LOCATION.--Lat 38°14'53", long 104°23'55", in NE¼SW¼ sec.1, T.21 S., R.63 W., Pueblo County, Hydrologic Unit 11020002, on right bank 15 ft (5 m) downstream from bridge on Sixmile Rd., 0.3 mi (0.5 km) upstream from Sixmile Creek, and 2.6 mi (4.2 km) west of Avondale.

DRAINAGE AREA.--6,327 mi² (16,387 km²).

PERIOD OF RECORD.--May 1939 to September 1951, February 1965 to current year.

REVISED RECORDS.--WSP 1087: 1942. WSP 1311: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4,509.53 ft (1,374.505 m) National Geodetic Vertical Datum of 1929. Prior to February 1965, at site 550 ft (170 m) downstream at datum 1.37 ft (0.418 m) lower.

REMARKS.--Records good. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals, diversions for irrigation of about 123,000 acres (498 km²) and municipal use, and return flow from irrigated areas. Flow partly regulated by Pueblo Reservoir (station 07099350) since Jan. 9, 1974. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--5 years (water years 1975-79), 654 ft³/s (18.52 m³/s), 473,800 acre-ft/yr (584 hm³/yr), subsequent to completion of Pueblo Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 50,000 ft³/s (1,416 m³/s) June 18, 1965, gage height, 9.77 ft (2.978 m), from rating curve extended above 6,700 ft³/s (190 m³/s), on basis of records for station near Pueblo and indirect measurements of peak flow on Fountain Creek at Pueblo, Chico Creek near North Avondale, and Arkansas River near North Avondale; minimum daily, 50 ft³/s (1.42 m³/s) Apr. 2, 1940.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,020 ft³/s (142 m³/s) at 2400 June 8, gage height, 5.44 ft (1.658 m); minimum daily, 90 ft³/s (2.55 m³/s) Nov. 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	160	150	180	174	175	235	444	1090	3860	2890	1060	534
2	150	180	178	166	178	235	455	1140	2910	3060	872	588
3	130	190	179	173	182	378	444	1260	2570	2980	721	606
4	125	190	182	171	182	449	477	1270	2560	2920	678	516
5	130	170	189	180	179	461	522	1200	2800	2850	654	606
6	150	160	195	183	189	400	522	1070	3090	2720	660	576
7	180	160	182	183	197	387	433	917	3220	2560	751	558
8	200	160	178	174	206	343	422	882	4210	2380	784	552
9	200	160	169	177	209	369	455	949	5030	2290	1270	488
10	200	178	173	188	219	360	564	949	4470	2050	2030	482
11	189	208	183	198	228	346	777	842	2720	1880	1370	707
12	171	209	190	201	234	340	559	623	2660	2120	1240	756
13	184	211	209	183	244	341	504	594	3280	2110	1130	721
14	189	274	210	173	293	349	469	547	3800	1980	1250	618
15	184	265	218	176	325	345	401	355	4240	2060	1440	582
16	177	164	213	195	253	365	415	300	4580	2890	1990	384
17	191	100	203	216	241	447	469	261	3800	2000	1930	270
18	197	94	212	227	232	506	511	340	3880	2290	1500	245
19	196	90	237	223	234	500	531	344	3610	2060	1480	222
20	194	104	237	221	235	618	526	559	3880	1700	1280	204
21	167	120	217	209	231	714	477	1460	3430	1590	1240	280
22	226	156	212	214	229	984	413	1260	3060	1570	1220	285
23	250	179	202	188	227	648	375	1200	2800	1520	1420	295
24	270	178	195	187	223	582	375	1550	3200	1490	1740	295
25	240	180	194	196	222	504	518	1850	3570	1550	1210	315
26	230	175	195	206	226	450	552	2270	2540	1570	936	320
27	220	172	196	191	233	439	544	2370	2590	1440	1180	325
28	220	172	205	180	231	466	529	2460	3330	1300	700	345
29	180	173	205	188	---	499	939	3090	3370	1220	630	372
30	150	173	191	183	---	510	1090	3610	3080	1110	612	394
31	140	---	179	177	---	488	---	4250	---	1070	570	---
TOTAL	5790	5095	6108	5901	6257	14058	15712	40862	102140	63220	35548	13441
MEAN	187	170	197	190	223	453	524	1318	3405	2039	1147	448
MAX	270	274	237	227	325	984	1090	4250	5030	3060	2030	756
MIN	125	90	169	166	175	235	375	261	2540	1070	570	204
AC-FT	11480	10110	12120	11700	12410	27880	31160	81050	202600	125400	70510	26660

CAL YR 1978 TOTAL 213122 MEAN 584 MAX 4250 MIN 90 AC-FT 422700
WTR YR 1979 TOTAL 314132 MEAN 861 MAX 5030 MIN 90 AC-FT 623100

07111000 HUERFANO RIVER AT MANZANARES CROSSING, NEAR REDWING, CO

LOCATION.--Lat 37°43'40", long 105°21'03", in sec.5, T.27 S., R.71 W., Huerfano County, Hydrologic Unit 11020006, on left bank at Manzanares Crossing, 500 ft (150 m) downstream from private bridge, 0.2 mi (0.3 km) downstream from Manzanares Creek, and 3.5 mi (5.6 km) southwest of Redwing.

DRAINAGE AREA.--73 mi² (189 km²).

PERIOD OF RECORD.--July 1923 to May 1977, October 1977 to September 1978. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1117: Drainage area. WSP 1311: 1945(M). WSP 1921: 1957.

GAGE.--Water-stage recorder. Altitude of gage is 8,270 ft (2,521 m), from topographic map. Apr. 26, 1946, to Sept. 30, 1972, at datum 1.00 ft (0.305 m) higher. See WSP 1711 or 1731 for history of changes prior to Apr. 26, 1946.

REMARKS.--Records poor. Diversions above station for irrigation of about 1,800 acres (7.28 km²). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--55 years (water years 1924-76, 1978-79), 31.2 ft³/s (0.884 m³/s), 22,600 acre-ft/yr (27.9 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,200 ft³/s (289 m³/s) Aug. 2, 1951, gage height, 8.14 ft (2.481 m), from rating curve extended above 270 ft³/s (7.6 m³/s), on basis of slope-area measurement of peak flow; minimum daily, 3.5 ft³/s (0.099 m³/s) Mar. 30, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 188 ft³/s (5.32 m³/s) at 0400 June 16, gage height, 3.47 ft (1.058 m); minimum daily, 5.0 ft³/s (0.14 m³/s) Dec. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.8	9.5	8.6	6.5	7.0	5.4	8.6	35	105	138	50	20
2	7.8	9.5	8.0	5.5	7.5	5.4	7.8	37	108	139	49	20
3	7.8	11	7.0	7.0	7.5	5.4	7.4	36	110	131	43	20
4	7.8	10	7.0	7.5	7.5	5.4	8.3	34	116	116	42	19
5	7.8	10	8.0	7.5	7.0	6.2	9.2	33	111	112	41	18
6	8.0	9.2	7.5	7.0	7.5	6.2	10	36	126	106	42	19
7	8.0	8.9	6.5	6.5	7.5	6.2	12	42	148	104	42	20
8	8.3	8.9	5.0	6.5	8.0	7.0	13	45	157	105	43	19
9	8.3	9.2	6.0	6.5	8.0	6.8	13	48	144	99	45	17
10	8.6	9.2	8.0	7.0	7.8	6.0	12	44	130	95	44	17
11	8.6	9.5	8.0	7.5	8.0	6.4	11	43	125	91	42	18
12	8.9	11	10	8.0	7.8	7.0	11	41	126	90	44	19
13	8.6	8.9	9.0	6.5	8.3	7.2	11	38	144	88	42	18
14	8.9	9.2	8.5	6.0	8.3	7.2	12	37	162	88	53	18
15	8.9	9.2	8.3	7.0	8.3	7.8	15	41	173	88	60	18
16	9.2	8.6	8.3	7.5	8.3	7.6	18	44	167	86	55	16
17	8.9	7.4	8.3	8.0	8.3	7.6	21	58	155	84	50	16
18	9.2	8.6	8.9	8.0	8.3	7.4	25	66	146	81	44	16
19	8.9	8.0	8.6	7.0	8.3	7.2	26	84	144	77	42	16
20	8.9	8.6	8.0	7.0	8.3	8.3	25	92	130	71	36	15
21	9.5	9.2	8.0	6.6	8.3	8.3	25	91	128	66	32	16
22	11	10	8.6	6.4	7.6	8.0	25	95	133	67	30	15
23	10	9.8	8.5	6.0	8.3	8.0	29	97	136	65	30	14
24	10	9.5	8.5	6.0	8.3	7.8	32	141	144	60	28	13
25	13	10	8.0	7.0	9.2	8.9	32	143	141	59	28	13
26	10	9.5	7.8	6.5	6.8	9.2	32	123	139	99	28	13
27	10	9.2	7.6	6.0	7.0	8.9	34	110	141	58	26	13
28	10	7.2	7.8	6.0	6.6	9.2	35	114	143	55	25	13
29	9.5	8.6	7.8	6.0	---	8.9	34	139	139	55	23	13
30	9.5	8.6	7.6	5.5	---	8.6	33	138	139	51	22	13
31	9.5	---	7.5	6.0	---	8.9	---	118	---	49	21	---
TOTAL	281.2	276.0	245.2	208.0	219.6	228.4	587.3	2243	4110	2633	1202	495
MEAN	9.07	9.20	7.91	6.71	7.84	7.37	19.6	72.4	137	84.9	38.8	16.5
MAX	13	11	10	8.0	9.2	9.2	35	143	173	139	60	20
MIN	7.8	7.2	5.0	5.5	6.6	5.4	7.4	33	105	49	21	13
AC-FT	558	547	486	413	436	453	1160	4450	8150	5220	2380	982

CAL YR 1978 TOTAL 5288.2 MEAN 14.5 MAX 56 MIN 5.0 AC-FT 10490
WTR YR 1979 TOTAL 12728.7 MEAN 34.9 MAX 173 MIN 5.0 AC-FT 25250

07114000 CUCHARAS RIVER AT BOYD RANCH, NEAR LA VETA, CO

LOCATION.--Lat 37°25'12", long 105°03'08", in SE¼NE¼SE¼ sec.24, T.30 S., R.69 W., Huerfano County, Hydrologic Unit 11020006, on left bank at Boyd Ranch, 29 ft (9 m) downstream from private bridge, 1.4 mi (2.3 km) downstream from Chaparral Creek, and 6.5 mi (10.5 km) southwest of La Veta.

DRAINAGE AREA.--56 mi² (145 km²).

PERIOD OF RECORD.--October 1934 to current year.

REVISED RECORDS.--WSP 827: 1936. WSP 1007: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 7,781 ft (2,371.6 m), from topographic map.

REMARKS.--Records good except those for winter period and period of no gage-height record, which are poor. Diversions for irrigation of about 500 acres (2.02 km²) above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--45 years, 22.2 ft³/s (0.629 m³/s), 16,080 acre-ft/yr (19.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 444 ft³/s (12.6 m³/s) May 23, 1955, gage height, 4.05 ft (1.234 m); minimum daily, 2 ft³/s (0.057 m³/s) for several days November 1934 to January 1935, Sept. 29, 1950.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 160 ft³/s (4.53 m³/s) at 2100 June 8, gage height, 2.20 ft (0.671 m), only peak above base of 150 ft³/s (4.2 m³/s); minimum daily, 4.0 ft³/s (0.11 m³/s) Dec. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.1	7.4	7.5	5.5	6.0	6.5	8.5	16	86	78	24	16
2	7.1	7.4	7.0	4.5	6.5	7.0	9.6	17	81	75	23	16
3	7.1	7.4	6.0	6.0	6.5	6.0	8.8	18	76	73	21	15
4	7.1	8.5	6.0	6.5	6.0	5.0	10	17	80	69	21	15
5	7.1	8.8	7.0	6.5	5.5	5.5	9.6	16	84	64	21	14
6	7.1	7.8	6.5	6.0	6.0	5.6	7.8	18	86	62	20	14
7	7.1	6.8	5.5	5.5	6.0	5.6	8.8	19	94	59	20	14
8	6.5	6.8	4.0	5.5	6.5	5.6	10	21	125	55	20	13
9	5.9	6.5	5.5	5.5	6.5	5.6	11	23	146	54	20	13
10	5.9	6.5	7.0	6.0	6.5	6.5	9.2	21	127	51	21	13
11	5.4	6.8	7.0	6.5	6.5	8.5	8.2	21	110	49	20	13
12	5.4	8.2	8.0	7.0	6.5	8.2	7.8	21	107	48	19	14
13	5.2	7.4	7.5	5.5	7.0	7.4	7.8	19	105	45	19	14
14	5.4	7.8	7.0	5.0	7.5	7.4	9.2	19	112	44	38	19
15	5.2	8.5	7.0	6.0	7.0	7.4	11	20	125	43	37	18
16	5.0	8.5	7.0	6.5	6.5	7.8	12	21	129	43	32	16
17	5.0	8.8	7.5	7.0	6.0	7.4	13	28	123	42	26	16
18	6.0	8.8	8.0	7.0	6.5	7.4	16	32	116	40	25	16
19	5.5	8.8	7.5	7.0	7.0	7.1	17	35	108	38	23	15
20	6.0	9.2	7.0	6.5	7.5	6.8	16	40	96	37	22	15
21	6.5	8.8	7.0	5.5	7.0	6.8	15	44	88	36	21	15
22	8.0	8.2	7.5	5.5	7.0	6.8	15	52	83	34	20	14
23	7.5	7.8	7.5	5.0	7.0	8.2	18	51	84	32	20	13
24	8.0	7.8	7.5	5.0	6.5	7.8	20	55	86	31	19	12
25	10	7.8	7.0	6.0	6.0	8.2	20	59	88	31	18	12
26	8.5	7.5	7.0	5.5	6.5	9.2	18	83	84	30	20	12
27	8.5	7.5	6.5	5.0	7.0	9.2	18	83	83	29	21	12
28	8.2	7.0	7.0	5.0	6.0	10	18	83	83	28	18	12
29	7.8	7.5	7.0	5.0	---	10	17	94	76	28	17	12
30	7.4	7.5	6.5	4.5	---	9.2	16	105	78	25	16	11
31	7.4	---	6.5	4.5	---	9.2	---	94	---	25	16	---
TOTAL	209.9	234.1	212.5	178.0	183.0	228.9	386.3	1245	2949	1398	678	424
MEAN	6.77	7.80	6.85	5.74	6.54	7.38	12.9	40.2	98.3	45.1	21.9	14.1
MAX	10	9.2	8.0	7.0	7.5	10	20	105	146	78	38	19
MIN	5.0	6.5	4.0	4.5	5.5	5.0	7.8	16	76	25	16	11
AC-FT	416	464	421	353	363	454	766	2470	5850	2770	1340	841

CAL YR 1978 TOTAL 5504.9 MEAN 15.1 MAX 73 MIN 3.5 AC-FT 10920
WTR YR 1979 TOTAL 8326.7 MEAN 22.8 MAX 146 MIN 4.0 AC-FT 16520

NOTE.--NO GAGE-HEIGHT RECORD NOV. 27 TO MAR. 6.

07117000 ARKANSAS RIVER NEAR NEPESTA, CO

LOCATION.--Lat 38°11'03", long 104°10'22", in SW¼SE¼ sec.25, T.21 S., R.61 W., Pueblo County, Hydrologic Unit 11020005, on right bank 0.7 mi (1.1 km) upstream from headgate of Oxford Farmers Co. canal, 1.9 mi (3.1 km) northwest of Nepesta, 2.7 mi (4.3 km) upstream from Kramer Creek, and 6.6 mi (10.6 km) downstream from Huerfano River.

DRAINAGE AREA.--9,345 mi² (24,204 km²), of which 54 mi² (140 km²) is probably noncontributing.

PERIOD OF RECORD.--April to October 1903, April to November 1912, October 1913 to current year. Monthly discharge only for some periods, published in WSP 1311. Records originally published for October 1933 to June 1936 did not include diversion to Oxford Farmers Co. canal, but monthly figures only for this period have been adjusted for diversion and published in WSP 1311.

Records for river below Oxford Farmers Co. canal (diversion to canal not included), published as "at Nepesta" September 1897 to October 1903 (irrigation seasons only), April to October 1904, June 1906 to September 1908 (irrigation seasons only), September 1909 to December 1910, February to September 1911 (gage heights and discharge measurements only), October 1911 to November 1912, March to August 1913 (discharge measurements only), October 1913 to September 1936. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1341: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 4,385 ft (1,337 m), from topographic map. Prior to June 5, 1921, nonrecording gages or water-stage recorders at various sites within 4.5 mi (7.2 km) upstream and 3.0 mi (4.8 km) downstream at different datums. June 5, 1921, to Apr. 4, 1966, water-stage recorders at sites on river or river and canal within 0.7 mi (1.1 km) downstream at various datums.

REMARKS.--Records fair except those for period of no gage-height record, which are poor. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals, diversions for irrigation of about 230,000 acres (931 km²), and return flow from irrigated areas. Flow partly regulated by Pueblo Reservoir (station 07099350) since Jan. 9, 1974. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--60 years (water years 1914-73), 684 ft³/s (19.37 m³/s), 495,600 acre-ft/yr (611 hm³/yr), prior to completion of Pueblo Dam; 6 years (water years 1974-79), 493 ft³/s (13.96 m³/s), 357,200 acre-ft/yr (440 hm³/yr), subsequent to completion of Pueblo Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 180,000 ft³/s (5,100 m³/s) June 4, 1921, gage height not determined, by slope-area measurement of peak flow at a point 8 mi (13 km) upstream; no flow at times in 1902, 1910, 1931, and 1934.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,080 ft³/s (144 m³/s) at 2000 June 9, gage height, 7.18 ft (2.188 m); minimum daily, 50 ft³/s (1.42 m³/s) Oct. 4, 5, 6.

REVISIONS.--Revised daily discharges, in cubic feet per second, for the highwater period in August 1965, are given below. These figures supersede those puslibhed in the report for 1965.

Aug. 22 15,600

Aug. 23 10,700

Month	Total	Mean	Max	Min
August 1965	87,228	2,814	15,600	647
Wtr Yr 1965	386,061	1,058	18,700	67
Cal Yr 1965	419,608	1,150	18,700	142

07117000 ARKANSAS RIVER NEAR NEPESTA, CO--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70	100	186	150	180	272	359	631	3190	2450	631	417
2	60	103	182	160	190	266	347	655	2580	2750	599	417
3	55	106	200	180	190	186	353	794	1680	2470	568	479
4	50	115	178	185	190	109	378	878	1290	2170	515	404
5	50	118	186	190	190	115	410	840	1450	2250	430	437
6	50	118	180	195	200	178	404	706	1890	1910	472	451
7	60	122	160	195	200	151	398	465	1990	1910	465	437
8	75	106	140	200	200	168	341	444	3040	1810	639	424
9	85	97	130	210	210	173	341	479	4860	1790	698	410
10	100	88	150	230	220	182	437	599	4630	1640	1720	404
11	105	97	170	240	210	173	575	552	1710	1390	794	398
12	105	103	200	240	205	160	568	210	1160	1390	672	391
13	105	106	230	220	225	151	410	164	1820	1430	560	410
14	105	122	230	200	256	148	378	115	2670	1380	615	500
15	105	182	230	220	323	155	335	122	3290	1500	680	615
16	105	245	220	240	294	215	240	91	4010	2400	1260	437
17	105	196	230	260	250	294	283	81	2940	2020	1400	200
18	110	178	240	250	245	378	323	76	2780	2030	1100	164
19	115	164	250	250	266	417	359	125	2520	1530	740	133
20	120	155	235	260	300	444	347	182	2800	1340	821	112
21	125	160	230	270	288	583	317	990	2540	1080	672	115
22	130	176	225	250	294	830	266	1010	2030	1070	655	155
23	140	186	225	240	261	698	230	936	1920	1020	706	168
24	150	186	215	250	261	552	205	1050	3140	988	1190	173
25	160	186	210	250	256	472	272	1640	3350	1240	1000	173
26	145	186	205	240	256	398	384	2080	2200	1070	800	200
27	130	186	210	220	261	378	391	2080	1590	1050	1100	215
28	125	191	215	210	261	398	365	2010	3320	840	600	225
29	140	196	210	190	---	404	417	2490	2800	794	552	245
30	136	186	200	170	---	424	639	2560	2580	647	530	278
31	106	---	190	160	---	398	---	3320	---	599	479	---
TOTAL	3222	4460	6262	6725	6682	9870	11072	28375	77770	47958	23663	9587
MEAN	104	149	202	217	239	318	369	915	2592	1547	763	320
MAX	160	245	250	270	323	830	639	3320	4860	2750	1720	615
MIN	50	88	130	150	180	109	205	76	1160	599	430	112
AC-FT	6390	8850	12420	13340	13250	19580	21960	56280	154300	95120	46940	19020

CAL YR 1978 TOTAL 156393 MEAN 428 MAX 3840 MIN 50 AC-FT 310200
WTR YR 1979 TOTAL 235646 MEAN 646 MAX 4860 MIN 50 AC-FT 467400

NOTE.--NO GAGE-HEIGHT RECORD DEC. 22 TO FEB. 2.

07118500 APISHAPA RIVER AT AQUILAR, CO

LOCATION.--Lat 37°24'00", long 104°38'29", in SE¼SW¼ sec.26, T.30 S., R.65 W., Las Animas County, Hydrologic Unit 11020007, on right bank 10 ft (3.0 m) downstream from county bridge on Aquilar Road, 0.8 mi (1.3 km) southeast of Aquilar, and 0.7 mi (1.1 km) upstream from Gonzales Canyon.

DRAINAGE AREA.--147 mi² (381 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1938 to September 1939, June 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,340 ft (1,932 m), from topographic map. Mar. 3, 1938 to Sept. 30, 1939, nonrecording gage at site 1.3 mi (2.1 km) upstream at different datum.

REMARKS.--Records good except those above 80 ft³/s (2.27 m³/s), which are fair. Several diversions for irrigation above station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,200 ft³/s (147 m³/s) Aug. 10, 1938, gage height, 14.32 ft (4.365 m) from floodmarks, from rating curve extended above 25 ft³/s (0.71 m³/s) on basis of slope-area measurements at gage heights, 12.96 ft (3.950 m) and 14.32 ft (4.365 m); no flow many days each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in Aug. 1930 reached a stage of 20.73 ft (6.319 m), at site and datum in use in 1938, from information by local residents. Discharge not determined. For discussion of this flood, see WSP 997.

EXTREMES FOR 1978.--Maximum discharge, 1,140 ft³/s (32.3 m³/s) at 1930 Aug. 3, gage height, 7.48 ft (2.280 m); only peak above base of 500 ft³/s (14.2 m³/s), during period June to September; no flow for most of period.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft³/s (14.2 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
July 25	2000	1,380	39.1	7.92	2.141	Aug. 12	1745	659	18.7	6.45	1.966
July 31	2145	*4,520	128	12.62	3.847	Aug. 14	0100	1,000	28.3	7.20	2.195

No flow many days.
* Result of slope-area measurement of peak flow.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									---	3.5	.00	.00
2									---	.00	4.8	.00
3									---	.00	43	.00
4									---	.00	6.0	.00
5									---	.00	.00	.00
6									---	.00	.00	.00
7									---	.00	.00	.00
8									---	.00	.00	.00
9									.00	.69	.00	.00
10									.00	.48	.00	.00
11									.00	.00	.00	.00
12									.00	.00	.00	.00
13									.00	.00	.00	.00
14									.00	.00	.00	.00
15									.00	.00	.00	.00
16									.00	.00	.00	.00
17									.00	.00	.00	.00
18									.00	.00	.00	.00
19									.00	.00	.00	.00
20									.00	.00	.00	.00
21									.00	.00	.00	.00
22									.00	.00	.00	.00
23									.00	.00	.00	.00
24									.00	.00	.00	.00
25									.00	.00	.00	.00
26									.00	.00	.00	.00
27									.00	.00	.00	.00
28									.00	.00	.00	.00
29									.00	.00	.00	.00
30									6.7	.00	.00	.00
31									---	.00	.00	---
TOTAL									---	4.67	53.80	.00
MEAN									---	.15	1.74	.000
MAX									---	3.5	43	.00
MIN									---	.00	.00	.00
AC-FT									---	9.3	107	.00

07118500 APISHAPA RIVER AT AGUILAR, CO--Continued
DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.03	.00	33	1.7
2	.00	.00	.00	.00	.00	.00	.00	.00	2.0	.00	2.2	.22
3	.00	.00	.00	.00	.00	.00	.00	.00	3.3	.00	.02	.40
4	.00	.00	.00	.00	.00	.00	.00	.00	2.8	.00	.00	.18
5	.00	.00	.00	.00	.00	.00	.00	.00	2.0	.00	.00	.14
6	.00	.00	.00	.00	.00	.00	.00	.00	.82	.00	.00	.14
7	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.14
8	.00	.00	.00	.00	.00	.00	.00	.00	.35	.00	.00	.14
9	.00	.00	.00	.00	.00	.00	.00	.00	4.2	.00	.00	.14
10	.00	.00	.00	.00	.00	.00	.00	.00	4.5	.00	.00	.14
11	.00	.00	.00	.00	.00	.00	.00	.00	3.4	.00	.00	.14
12	.00	.00	.00	.00	.00	.00	.00	.00	1.1	.00	50	.14
13	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	20	1.5
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	157	29
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	72	7.9
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	65	.64
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	58	.64
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	81	.64
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	35	.64
20	.00	.00	.00	.00	.00	.00	.00	.96	.00	.00	27	.64
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	24	.72
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	19	.28
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	35	.28
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.92	20	.22
25	.00	.00	.00	.00	.00	.00	.00	.13	.00	60	18	.22
26	.00	.00	.00	.00	.00	.00	.00	12	.00	28	52	.22
27	.00	.00	.00	.00	.00	.00	.00	8.5	.00	.00	34	.34
28	.00	.00	.00	.00	.00	.00	.00	.91	.00	.00	22	.22
29	.00	.00	.00	.00	---	.00	.00	.01	.00	.00	17	.22
30	.00	.00	.00	.00	---	.00	.00	.12	.00	.00	13	.22
31	.00	---	.00	.00	---	.00	---	1.2	---	146	7.0	---
TOTAL	.00	.00	.00	.00	.00	.00	.00	23.83	24.52	234.92	861.22	48.16
MEAN	.000	.000	.000	.000	.000	.000	.000	.77	.82	7.58	27.8	1.61
MAX	.00	.00	.00	.00	.00	.00	.00	12	4.5	146	157	29
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.14
AC-FT	.00	.00	.00	.00	.00	.00	.00	47	49	466	1710	96

WTR YR 1979 TOTAL 1192.65 MEAN 3.27 MAX 157 MIN .00 AC-FT 2370

07118500 APISHAPA RIVER AT AGUILAR, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 1938 to September 1939, June 1978 to current year.

PERIOD OF DAILY RECORD.--
SUSPENDED SEDIMENT DISCHARGE: October 1978 to September 1979.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily, 16,400 mg/L Aug. 14, 1979; minimum daily, no flow many days during the year.
SEDIMENT LOADS: Maximum daily, 43,800 tons (39,700 t) July 31, 1979; minimum daily, no flow many days during the year.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily, 16,400 mg/L Aug. 14; minimum daily, no flow many days during the year.
SEDIMENT LOADS: Maximum daily, 43,800 tons (39,700 t) July 31; minimum daily, no flow many days during the year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
JUN										
11...	1510	2.9	270	8.0	23.5	100	11	29	7.1	17
AUG										
15...	1512	78	240	7.9	21.5	--	--	--	--	--

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
JUN										
11...	.7	2.3	110	0	90	34	2.8	.3	9.0	156
AUG										
15...	--	--	90	--	74	--	--	--	--	--

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)
JUN									
11...	.21	1.24	.09	.00	--	40	--	--	1700
AUG									
15...	--	--	--	--	3	--	0	50	48000

DATE	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
JUN									
11...	110	--	80	40	--	--	--	--	--
AUG									
15...	--	27	1300	--	.9	3	27	2	140

07119500 APISHAPA RIVER AT AGUILAR, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	.00			.00	---	---	.03	---	.00
2	.00			.00	---	---	2.0	---	.50
3	.00			.00	---	---	3.3	---	1.0
4	.00			.00	---	---	2.8	---	.65
5	.00			.00	---	---	2.0	77	.42
6	.00			.00	---	---	.82	---	.05
7	.00			.00	---	---	.01	---	.00
8	.00			.00	---	---	.35	736	.66
9	.00			.00	---	---	4.2	---	3.0
10	.00			.00	---	---	4.5	160	1.9
11	.00			.00	---	---	3.4	127	2.1
12	.00			.00	---	---	1.1	---	.10
13	.00			.00	---	---	.01	---	---
14	.00			.00	---	---	.00	---	---
15	.00			.00	---	---	.00	---	---
16	.00			.00	---	---	.00	---	---
17	.00			.00	---	---	.00	---	---
18	.00			.00	---	---	.00	---	---
19	.00			.00	---	---	.00	---	---
20	.00			.96	---	75	.00	---	---
21	.00			.00	---	---	.00	---	---
22	.00			.00	---	---	.00	---	---
23	.00			.00	---	---	.00	---	---
24	.00			.00	---	---	.00	---	---
25	.00			.13	---	.02	.00	---	---
26	.00			12	1920	62	.00	---	---
27	.00			8.5	---	10	.00	---	---
28	.00			.01	---	.15	.00	---	---
29	.00			.01	---	.00	.00	---	---
30	.00			.12	---	.01	.00	---	---
31	---			1.2	---	.10	---	---	---
TOTAL	0.00			23.83	---	147.28	24.52	---	10.38
		JULY			AUGUST			SEPTEMBER	
1	.00	---	---	33	5330	1020	1.7	---	.64
2	.00	---	---	2.2	---	.90	.22	---	.02
3	.00	---	---	.02	---	.00	.40	---	.06
4	.00	---	---	.00	---	---	.18	---	.02
5	.00	---	---	.00	---	---	.14	---	.01
6	.00	---	---	.00	---	---	.14	---	.01
7	.00	---	---	.00	---	---	.14	---	.01
8	.00	---	---	.00	---	---	.14	---	.01
9	.00	---	---	.00	---	---	.14	---	.01
10	.00	---	---	.00	---	---	.14	---	.01
11	.00	---	---	.00	---	---	.14	---	.01
12	.00	---	---	50	---	3000	.14	---	.01
13	.00	---	---	20	3150	294	1.5	---	35
14	.00	---	---	157	16400	17100	29	5140	502
15	.00	---	---	72	1940	384	7.9	---	3.0
16	.00	---	---	65	---	100	.64	---	.15
17	.00	---	---	58	1500	999	.64	---	.15
18	.00	---	---	81	3940	1090	.64	---	.15
19	.00	---	---	35	---	70	.64	---	.15
20	.00	---	---	27	550	40	.64	---	.15
21	.00	---	---	24	---	25	.72	---	.20
22	.00	---	---	19	---	15	.28	---	.02
23	.00	---	---	35	3960	1260	.28	---	.02
24	.92	1330	98	20	---	45	.22	---	.02
25	60	9460	8590	18	600	29	.22	---	.02
26	28	3460	418	52	6640	2290	.22	---	.02
27	.00	---	---	34	---	230	.36	---	.03
28	.00	---	---	22	1170	69	.22	---	.02
29	.00	---	---	17	---	50	.22	---	.02
30	.00	---	---	13	---	30	.22	---	.02
31	146	15700	43800	7.0	---	10	---	---	---
TOTAL	234.92	---	52906	861.22	---	20230.90	48.16	---	541.96
YEAR	1192.65		81836.52						

07119500 APISHAPA RIVER NEAR FOWLER, CO

LOCATION.--Lat 38°05'24", long 103°58'52", in SE¼NW¼ sec.35, T.22 S., R.59 W., Otero County, Hydrologic Unit 11020007, near right bank on downstream side of county highway bridge, 3.5 mi (5.6 km) southeast of Fowler, and 5.4 mi (8.7 km) upstream from mouth.

DRAINAGE AREA.--1,125 mi² (2,914 km²).

PERIOD OF RECORD.--April 1922 to September 1925, May 1939 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 957: 1939, 1941. WSP 1117: Drainage area. WSP 1241: 1923(M). WRD Colo. 1974: 1973(M).

GAGE.--Water-stage recorder. Datum of gage is 4,317.05 ft (1,315.837 m) above mean sea level. Prior to Aug. 29, 1923, at site 3 mi (5 km) downstream at different datum. Aug. 29, 1923, to Sept. 30, 1925, at present site at different datum.

REMARKS.--Records fair except those above 1,000 ft³/s (28.3 m³/s) which are good. Waste water from Oxford Farmers Co. and Rocky Ford Highline canals enters river above station. Diversions above station for irrigation of about 4,700 acres (19.0 km²). Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--43 years, 30.2 ft³/s (0.855 m³/s), 21,880 acre-ft/yr (27.0 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 83,000 ft³/s (2,350 m³/s) Aug. 22, 1923, by slope-area measurement 2 mi (3 km) upstream from present station, caused by failure of Apishapa Dam 31 mi (50 km) upstream; no flow Feb. 5, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,640 ft³/s (74.8 m³/s) at 1000 July 31, gage height, 8.50 ft (2.591 m), no peak above base of 3,000 ft³/s (85 m³/s); minimum daily, 1.7 ft³/s (0.048 m³/s) Mar. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.7	4.1	3.1	2.5	2.4	1.9	2.4	2.4	64	11	72	13
2	4.2	4.2	3.1	2.4	2.4	1.8	2.4	2.6	43	12	30	10
3	4.4	4.1	3.1	2.4	2.4	1.7	3.1	2.8	25	11	19	11
4	4.7	3.8	3.1	2.4	2.4	1.8	2.8	2.6	24	8.9	20	9.6
5	4.3	4.1	3.1	2.4	2.4	1.8	2.8	2.6	49	9.2	14	6.9
6	4.2	5.0	3.1	2.4	2.4	1.9	2.9	2.4	65	25	8.7	7.9
7	4.1	6.0	3.1	2.4	2.4	1.9	3.2	2.2	95	12	8.1	8.7
8	4.1	5.1	3.1	2.4	2.3	1.8	2.9	2.3	145	8.6	8.1	8.1
9	4.2	4.6	3.1	2.4	2.2	1.9	2.8	2.5	94	11	11	7.9
10	4.4	4.4	3.0	2.4	2.1	1.8	2.6	2.4	40	8.1	138	7.2
11	4.4	4.4	3.0	2.4	2.1	1.8	2.7	2.2	19	8.4	39	4.7
12	4.3	4.5	3.0	2.4	2.1	1.9	2.6	2.2	23	9.0	27	5.2
13	4.4	6.0	2.9	2.4	2.0	1.9	2.6	2.2	15	10	15	4.4
14	4.4	6.1	2.8	2.4	2.1	1.9	2.6	2.2	16	9.4	448	9.0
15	4.1	7.4	2.9	2.4	2.2	1.8	2.6	2.3	11	11	332	8.0
16	4.5	6.9	2.9	2.4	2.2	2.2	2.7	2.3	11	12	117	5.0
17	4.4	3.1	3.0	2.5	2.0	3.5	2.7	2.6	14	12	61	4.5
18	4.0	2.5	3.0	2.4	1.9	1.9	2.4	2.9	14	154	70	4.0
19	4.1	2.8	2.9	2.4	1.9	1.9	2.3	2.9	10	81	60	4.0
20	4.1	2.9	2.7	2.4	2.0	2.3	2.3	3.2	10	42	23	4.0
21	4.5	2.9	2.7	2.4	2.0	2.4	2.8	3.7	8.3	21	19	4.0
22	4.6	2.9	2.7	2.5	1.8	4.4	3.0	4.0	8.4	14	9.6	4.0
23	3.7	2.9	2.8	2.5	1.8	3.2	3.1	5.4	53	10	13	4.0
24	4.5	2.8	2.8	2.4	1.8	3.0	2.9	5.0	246	7.8	12	4.0
25	3.7	2.9	2.8	2.4	1.8	3.5	2.9	25	52	238	9.8	4.9
26	4.4	2.9	2.8	2.4	1.8	4.1	2.8	36	140	73	16	5.2
27	4.2	2.9	2.8	2.4	1.8	2.6	2.7	25	40	24	15	4.4
28	4.1	2.9	2.8	2.4	1.9	2.5	2.7	23	11	14	8.2	4.2
29	5.1	2.9	2.8	2.4	---	2.4	2.6	17	8.8	12	11	4.3
30	5.4	3.0	2.8	2.4	---	2.7	2.4	22	9.1	8.1	11	4.4
31	4.2	---	2.7	2.4	---	2.4	---	44	---	546	15	---
TOTAL	134.6	121.0	90.5	74.8	58.6	72.6	81.3	259.9	1323.6	1433.5	1660.5	186.5
MEAN	4.34	4.03	2.92	2.41	2.09	2.34	2.71	8.38	44.1	46.2	53.6	6.22
MAX	5.4	7.4	3.1	2.5	2.4	4.4	3.2	44	246	546	448	13
MIN	3.7	2.5	2.7	2.4	1.8	1.7	2.3	2.2	8.3	7.8	8.1	4.0
AC-FT	267	240	180	148	116	144	161	516	2630	2840	3290	370

CAL YR 1978 TOTAL 8237.5 MEAN 22.6 MAX 3660 MIN 1.9 AC-FT 16340
WTR YR 1979 TOTAL 5497.2 MEAN 15.1 MAX 546 MIN 1.7 AC-FT 10900

07119700 ARKANSAS RIVER AT CATLIN DAM, NEAR FOWLER, CO

LOCATION.--Lat 38°07'33", long 103°54'41", in NW¼NW¼ sec. 1, T.22 S., R.58 W., Otero County, Hydrologic Unit 11020005, 600 ft (180 m) downstream from gage on Catlin Canal, on right bank 2.2 mi (3.5 km) downstream from diversion dam for Catlin Canal, 2.3 mi (3.7 km) downstream from Apishapa River, and 6.0 mi (9.7 km) east of Fowler.

DRAINAGE AREA.--10,901 mi^2 (28,234 km^2), of which 54 mi^2 (140 km^2) is probably noncontributing.

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorders on river and on Catlin Canal. Datum of river gage is 4,245.92 ft (1,294.156 m) National Geodetic Vertical Datum of 1929. Datum of canal gage is 4,257.87 ft (1,297.799 m) NGVD. Prior to May 13, 1971, river gage at site 2.2 mi (3.5 km) upstream at datum 24.08 ft (7.340 m) higher and canal gage at site 1.7 mi (2.7 km) upstream at datum 3.26 ft (0.994 m) higher.

REMARKS.--Records fair except those for periods of no gage-height record, which are poor. Discharge computed by combining discharge of river below canal with that of Catlin Canal. Natural flow of stream affected by transmountain diversions, storage reservoirs, ground-water withdrawals, diversions for irrigation, and return flow from irrigated areas. Flow partly regulated by Pueblo Reservoir (station 07099350) since Jan. 9, 1974. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--9 years (water years 1965-73), 636 ft^3/s (18.01 m^3/s), 460,800 acre-ft/yr (568 hm^3/yr), prior to completion of Pueblo Dam; 6 years (water years 1974-79), 490 ft^3/s (13.88 m^3/s), 355,000 acre-ft/yr (438 hm^3/yr), subsequent to completion of Pueblo Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 43,200 ft^3/s (1,220 m^3/s) June 18, 1965, gage height, 7.95 ft (2.423 m), site and datum then in use, from rating curve extended above 13,000 ft^3/s (370 m^3/s), on basis of flow-over-dam computation of peak flow; minimum daily, 30 ft^3/s (0.85 m^3/s) Sept. 12, 1974, Aug. 14, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,940 ft^3/s (140 m^3/s) at 0500 June 10, gage height, 6.53 ft (1.990 m); minimum daily, 41 ft^3/s (1.16 m^3/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	98	190	140	190	256	481	530	2740	2260	685	425
2	41	90	185	150	205	264	427	581	2810	2790	599	395
3	54	93	180	160	205	276	424	686	2220	2600	543	506
4	53	102	190	165	210	176	420	783	1610	2380	518	511
5	43	113	175	170	230	162	421	818	1660	2450	448	364
6	43	113	180	175	250	173	423	736	2070	2330	431	441
7	43	113	160	175	260	205	429	593	2350	2120	446	455
8	48	113	140	180	270	176	353	491	3030	2270	505	436
9	65	108	120	190	300	195	338	486	4110	1970	555	420
10	71	102	140	220	320	202	366	553	4510	1810	1460	404
11	81	100	150	240	310	202	468	507	2590	1660	1150	411
12	87	109	160	255	300	192	594	406	1420	1550	831	409
13	88	115	180	210	330	176	444	228	1670	1510	702	400
14	88	119	200	190	356	176	379	189	2550	1500	1360	396
15	88	145	210	200	350	173	335	138	2960	1420	1350	548
16	90	215	215	210	315	162	251	148	3490	1660	1090	566
17	92	250	220	220	288	237	208	133	3010	2470	1470	366
18	93	208	240	220	300	290	233	111	2520	2300	1420	236
19	98	195	250	220	268	389	261	117	2520	1640	943	199
20	104	189	245	230	264	352	277	142	2410	1520	982	176
21	109	189	240	240	260	468	272	517	2440	1090	761	165
22	113	189	230	240	260	611	282	1060	1900	1010	706	173
23	122	187	225	240	250	943	262	930	1830	985	696	202
24	128	187	220	240	242	514	228	938	3450	951	1030	205
25	133	187	210	240	246	456	220	1400	3240	1550	1170	195
26	150	187	205	230	246	396	299	1580	2970	1250	985	199
27	148	185	210	220	290	435	325	1700	1220	1130	805	218
28	138	185	215	210	253	432	322	1690	3100	1000	1070	225
29	133	190	200	200	---	420	302	2040	2830	871	602	235
30	119	195	180	190	---	431	429	2120	2370	764	556	274
31	109	---	160	170	---	481	---	2340	---	1660	513	---
TOTAL	2822	4571	6025	6340	7528	10021	10473	24691	77600	52471	26382	10155
MEAN	91.0	152	194	205	269	323	349	796	2587	1693	851	339
MAX	150	250	250	255	356	943	594	2340	4510	2790	1470	566
MIN	41	90	120	140	190	162	208	111	1220	764	431	165
AC-FT	5600	9070	11950	12580	14930	19880	20770	48970	153900	104100	52330	20140

CAL YR 1978 TOTAL 164989 MEAN 452 MAX 8480 MIN 41 AC-FT 327300
WTR YR 1979 TOTAL 239079 MEAN 655 MAX 4510 MIN 41 AC-FT 474200

07121500 TIMPAS CREEK AT MOUTH, NEAR SWINK, CO

LOCATION.--Lat 38°00'11", long 103°39'20", in NW¼SW¼ sec.35, T.23 S., R.56 W., Otero County, Hydrologic Unit 11020005, on left bank 40 ft (12 m) shoreward, 125 ft (38 m) upstream from left end of 20th Rd. Bridge, 1.7 mi (2.7 km) southwest of Swink, and 2.9 mi (4.7 km) upstream from mouth.

DRAINAGE AREA.--496 mi² (1,285 km²).

PERIOD OF RECORD.--January 1922 to September 1925, March 1968 to current year.

REVISED RECORDS.--WDR CO 76-1: 1975.

GAGE.--Water-stage recorder. Altitude of gage is 4,120 ft (1,256 m), from topographic map. Prior to May 29, 1975, at site 140 ft (43 m) downstream at datum 0.13 ft (0.040 m) lower.

REMARKS.--Records good except those for winter period, which are fair. Natural flow of stream affected by minor diversions above station for irrigation, water imported from Arkansas River and Crooked Arroyo for irrigation above station, and return flow from irrigated areas. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--14 years (water years 1923-25, 1969-79), 64.5 ft³/s (1.827 m³/s), 46,730 acre-ft/yr (57.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,300 ft³/s (348 m³/s) July 10, 1978, gage height, 21.11 ft (6.434 m), from floodmark, from rating curve extended above 250 ft³/s (7.1 m³/s) on basis of contracted-opening measurement of peak flow; minimum daily, 3.3 ft³/s (0.093 m³/s) Aug. 7, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1922, 21,400 ft³/s (606 m³/s) June 17, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,440 ft³/s (69.1 m³/s) at 0430 July 31, gage height, 10.24 ft (3.121 m), from rating curve extended above 250 ft³/s (7.1 m³/s) on the basis of contracted-opening measurement of peak flow; minimum daily, 3.7 ft³/s (0.10 m³/s) Apr. 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	37	32	9.5	6.0	31	33	35	122	51	99	41
2	17	32	30	9.5	6.2	43	34	49	104	56	73	18
3	16	33	19	9.5	6.4	38	56	59	82	54	50	18
4	18	34	18	9.3	6.4	40	59	67	97	42	43	18
5	16	41	12	9.3	6.4	44	25	75	77	59	24	37
6	18	40	8.7	9.3	6.4	22	26	70	96	63	29	38
7	19	40	8.0	8.1	6.5	25	26	45	94	72	25	46
8	19	35	6.0	9.3	6.6	26	23	34	208	56	17	50
9	21	32	5.0	8.1	6.8	31	16	31	106	53	20	60
10	27	29	5.0	8.1	7.8	9.3	14	42	66	44	26	61
11	28	36	5.2	8.7	8.6	5.5	15	38	69	41	41	59
12	29	44	5.6	8.7	9.2	27	15	22	52	32	46	52
13	32	53	7.0	9.3	10	38	15	26	101	29	30	46
14	36	51	7.4	9.3	13	32	23	44	112	25	28	53
15	36	58	5.5	8.1	13	29	10	60	86	30	133	53
16	39	64	4.5	7.5	11	30	9.4	66	65	39	75	69
17	37	59	6.0	7.5	11	30	9.5	66	76	43	80	74
18	32	56	6.2	122	11	32	3.7	58	81	218	115	51
19	30	49	6.2	103	13	44	9.2	45	64	107	59	50
20	29	47	7.6	40	31	100	23	48	62	62	74	45
21	32	43	4.5	7.2	31	53	32	60	59	52	92	39
22	37	39	5.1	8.2	27	27	25	74	56	23	77	38
23	27	39	6.4	8.7	37	67	35	96	98	24	77	41
24	18	38	7.5	8.7	44	18	35	83	568	25	80	41
25	16	34	8.8	8.1	41	29	33	83	109	41	72	39
26	18	33	11	7.5	39	20	33	50	40	98	78	30
27	36	34	12	8.7	36	24	50	51	47	62	143	24
28	42	31	13	8.1	28	26	58	43	38	61	73	26
29	38	30	11	7.5	---	28	47	62	46	27	77	25
30	36	33	10	7.0	---	31	36	96	49	56	61	24
31	35	---	9.5	6.0	---	31	---	122	---	601	56	---
TOTAL	849	1224	303.7	499.8	479.3	1032.8	828.8	1800	2930	2246	1973	1266
MEAN	27.4	40.8	9.80	16.1	17.1	33.3	27.6	58.1	97.7	72.5	63.6	42.2
MAX	42	64	32	122	44	100	59	122	568	601	143	74
MIN	15	29	4.5	6.0	6.0	5.5	3.7	22	38	23	17	18
AC-FT	1680	2430	602	991	951	2050	1640	3570	5810	4450	3910	2510

CAL YR 1978 TOTAL 13493.4 MEAN 37.0 MAX 1220 MIN 4.5 AC-FT 26760
WTR YR 1979 TOTAL 15432.4 MEAN 42.3 MAX 601 MIN 3.7 AC-FT 30610

07122400 CROOKED ARROYO NEAR SWINK, CO

LOCATION.--Lat 37°58'56", long 103°35'52", in SW¼SW¼ sec.5, T.24 S., R.55 W., Otero County, Hydrologic Unit 11020005, on right bank 54 ft (16 m) downstream from bridge on State Highway 10, 2.0 mi (3.2 km) upstream from mouth, and 2.8 mi (4.5 km) southeast of Swink.

DRAINAGE AREA.--108 mi² (280 km²).

PERIOD OF RECORD.--February 1968 to current year.

REVISED RECORDS.--WDR CO 76-1: 1975.

GAGE.--Water-stage recorder. Altitude of gage is 4,100 ft (1,250 m), from topographic map.

REMARKS.--Records good except those above 80 ft³/s (2.27 m³/s) which are fair. Natural flow of stream affected by minor diversions above station for irrigation, water exported above station to Timpas Creek, water imported from Arkansas River for irrigation above station, and return flow from irrigated areas. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--11 years, 10.6 ft³/s (0.300 m³/s), 7,680 acre-ft/yr (9.47 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,200 ft³/s (34.0 m³/s) Aug. 7, 1971, gage height, 7.91 ft (2.411 m), from rating curve extended above 87 ft³/s (2.5 m³/s); no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 259 ft³/s (7.33 m³/s) at 0215 Aug. 18, gage height, 4.87 ft (1.484 m), from rating curve extended above 40 ft³/s (1.13 m³/s) on basis of slope-area measurement of peak flow; no flow Oct. 25 to Nov. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.09	.00	.86	.41	.41	.12	7.4	3.8	35	15	40	9.0
2	.14	.00	.76	.50	.33	.12	5.3	4.0	40	10	46	8.0
3	.21	.00	.78	.50	.32	.12	36	4.6	39	14	30	6.0
4	.21	.26	.86	.50	.32	.12	49	5.0	35	16	19	5.0
5	.21	.11	.79	.50	.34	.12	16	5.7	27	18	14	4.5
6	.16	.16	.74	.64	.32	.12	8.1	5.9	29	18	14	7.2
7	.16	.23	.74	.50	.32	.14	5.5	4.8	23	20	9.9	12
8	.12	.28	.74	.50	.30	.15	4.2	7.1	9.5	24	5.0	17
9	.10	.33	.78	.50	.33	.16	4.0	2.5	22	25	5.0	11
10	.08	.37	.72	.48	.32	.16	7.6	2.3	9.2	15	12	13
11	.08	.44	.71	.50	.33	.17	10	18	20	13	11	13
12	.08	.54	.71	.50	.39	.18	11	8.3	23	9.8	12	12
13	.08	.54	.61	.48	.32	.16	2.3	8.9	29	15	6.9	20
14	.03	.59	.71	.38	.22	.17	15	3.2	29	14	11	33
15	.03	.72	.62	.42	.08	.18	9.9	1.8	20	11	24	45
16	.03	.74	.54	.41	.13	.19	4.9	1.7	22	10	10	41
17	.02	.74	.60	.41	.17	.21	1.9	1.1	24	16	40	35
18	.02	.74	.60	.41	.17	.20	.46	.99	34	12	58	29
19	.02	.74	.51	.41	.12	16	.34	1.3	26	18	42	6.1
20	.02	.81	.43	.41	.13	26	.76	17	23	26	37	4.0
21	.01	.89	.42	.39	.12	13	1.0	4.5	20	22	29	2.9
22	.01	.90	.42	.48	.12	34	1.3	32	22	17	22	2.1
23	.01	.77	.41	.40	.12	20	.90	38	22	18	17	1.4
24	.01	.82	.40	.40	.12	18	1.5	24	73	20	16	1.3
25	.00	.91	.41	.41	.12	16	1.3	27	8.5	30	12	1.3
26	.00	.86	.42	.40	.12	12	1.1	26	7.6	36	15	1.3
27	.00	.79	.48	.40	.12	13	20	31	22	30	20	1.2
28	.00	.88	.46	.42	.12	11	50	39	19	25	13	1.2
29	.00	.80	.38	.42	---	8.8	10	39	13	21	10	1.0
30	.00	.82	.40	.39	---	8.0	3.5	34	9.8	20	9.8	3.5
31	.00	---	.41	.42	---	5.7	---	58	---	30	9.6	---
TOTAL	1.93	16.78	18.42	13.89	6.33	204.29	290.26	460.49	735.6	588.8	620.2	348.0
MEAN	.062	.56	.59	.45	.23	6.59	9.68	14.9	24.5	19.0	20.0	11.6
MAX	.21	.91	.86	.64	.41	34	50	58	73	36	58	45
MIN	.00	.00	.38	.38	.08	.12	.34	.99	7.6	9.8	5.0	1.0
AC-FT	3.8	33	37	28	13	405	576	913	1460	1170	1230	690

CAL YR 1978 TOTAL 1737.11 MEAN 4.76 MAX 129 MIN .00 AC-FT 3450
WTR YR 1979 TOTAL 3304.99 MEAN 9.05 MAX 73 MIN .00 AC-FT 6560

07123000 ARKANSAS RIVER AT LA JUNTA, CO

LOCATION.--Lat 37°59'26", long 103°31'55", in SE¼NE¼ sec.2, T.24 S., R.55 W., Otero County, Hydrologic Unit 11020005, on right bank at upstream side of bridge on State Highway 109 in La Junta, 450 ft (140 m) upstream from King Arroyo.

DRAINAGE AREA.--12,210 mi^2 (31,624 km^2), of which 115 mi^2 (298 km^2) is probably noncontributing.

PERIOD OF RECORD.--May to August 1889, September 1893 to December 1895 (gage heights, discharge measurements, and flood data only), April to October 1903, June to November 1908 (gage heights and discharge measurements only), April 1912 to current year. Monthly discharge only for some periods, published in WSP 1311. Published as "near La Junta" in 1903.

REVISED RECORDS.--WSP 1341: Drainage area. WSP 1731: 1922.

GAGE.--Water-stage recorder and nonrecording gage read twice daily. Datum of gage is 4,039.60 ft (1,231.270 m) National Geodetic Vertical Datum of 1929. See WSP 1711 or 1731 for history of changes prior to June 13, 1940. June 13, 1940, to June 6, 1967, water-stage recorder at site 300 ft (90 m) upstream at present datum.

REMARKS.--Records fair. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation of about 400,000 acres (1,620 km^2), and return flow from irrigated areas. Flow partly regulated by Pueblo Dam (station 07099350) since Jan. 9, 1974. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 200,000 ft^3/s (5,660 m^3/s) June 4, 1921, gage height, 18.4 ft (5.61 m), site and datum then in use, from rating curve extended above 15,000 ft^3/s (420 m^3/s), on basis of slope-area measurement of peak flow; no flow Jan. 20-23, Mar. 20-22, 1915.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,770 ft^3/s (78.4 m^3/s) at 0200 June 24, gage height, 8.11 ft (2.471 m); minimum daily, 2.5 ft^3/s (0.071 m^3/s) Dec. 8, 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	4.4	3.5	35	150	42	47	11	797	760	533	69
2	18	3.8	3.5	20	150	43	62	11	651	882	129	64
3	17	4.0	3.4	22	140	39	60	12	429	893	62	43
4	16	4.0	3.4	24	130	49	94	10	295	859	109	103
5	15	4.0	3.3	25	125	47	34	12	322	730	129	62
6	14	3.8	3.2	26	115	88	18	36	633	914	83	97
7	14	4.0	3.0	28	110	91	25	27	536	690	54	113
8	13	4.2	2.5	30	120	17	26	24	570	642	51	106
9	12	4.4	2.5	35	130	8.2	20	21	1290	633	56	69
10	12	4.4	3.0	40	150	7.0	32	43	1390	588	60	75
11	12	4.2	4.0	45	160	7.0	87	45	643	588	138	62
12	11	4.6	4.5	52	140	7.0	200	35	88	588	113	75
13	11	4.4	5.0	45	120	6.8	207	40	103	553	110	91
14	11	4.2	5.0	40	106	6.6	49	60	177	597	103	113
15	11	4.2	5.0	50	113	6.6	40	49	129	615	98	151
16	11	4.2	4.5	55	83	13	42	27	919	637	64	316
17	11	4.6	4.5	62	86	17	39	18	942	554	93	300
18	11	4.6	4.0	65	110	28	15	16	779	552	162	116
19	11	4.4	41	65	100	54	14	15	730	407	451	56
20	12	4.4	88	70	100	78	16	37	710	285	450	36
21	12	4.2	80	75	100	51	23	25	870	390	460	25
22	13	4.4	78	81	75	54	21	380	606	651	317	20
23	12	4.4	78	78	67	51	19	597	688	633	356	22
24	12	4.4	75	72	80	43	18	562	1600	633	370	29
25	12	4.4	75	100	91	62	12	624	523	624	528	21
26	9.0	4.2	78	90	100	62	13	700	418	478	510	19
27	6.6	4.0	78	80	103	60	16	720	191	606	457	19
28	6.2	4.0	78	75	54	62	14	720	555	782	422	20
29	6.2	3.8	69	80	---	49	12	730	800	720	311	21
30	5.2	3.7	60	100	---	49	11	731	730	597	144	26
31	4.8	---	50	130	---	43	---	334	---	970	100	---
TOTAL	361.0	126.3	995.8	1795	3108	1241.2	1286	6672	19114	20051	7023	2339
MEAN	11.6	4.21	32.1	57.9	111	40.0	42.9	215	637	647	227	78.0
MAX	19	4.6	88	130	160	91	207	731	1600	970	533	316
MIN	4.8	3.7	2.5	20	54	6.6	11	10	88	285	51	19
AC-FT	716	251	1980	3560	6160	2460	2550	13230	37910	39770	13930	4640

CAL YR 1978 TOTAL 45868.7 MEAN 126 MAX 7750 MIN 2.5 AC-FT 90980
WTR YR 1979 TOTAL 64112.3 MEAN 176 MAX 1600 MIN 2.5 AC-FT 127200

07124000 ARKANSAS RIVER AT LAS ANIMAS, CO

LOCATION.--Lat 38°04'51", long 103°13'09", in SE¼NE¼ sec.3, T.23 S., R.52 W., Bent County, Hydrologic Unit 11020009, on right bank at upstream side of bridge on U.S. Highway 50, 1.1 mi (1.8 km) north of courthouse in Las Animas, and 4.2 mi (6.8 km) upstream from Purgatoire River.

DRAINAGE AREA.--14,417 mi^2 (37,340 km^2), of which 441 mi^2 (1,142 km^2) is probably noncontributing.

PERIOD OF RECORD.--May to November 1898 (gage heights only), August to November 1909 (gage heights and discharge measurements only), May 1939 to current year.

REVISED RECORDS.--WSP 1341: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,883.97 ft (1,183.834 m), National Geodetic Vertical Datum of 1929. May 13 to Nov. 12, 1898, and Aug. 1 to Nov. 10, 1909, nonrecording gages near present site at different datums. May 23, 1939, to Apr. 27, 1967, water-stage recorder at site 0.4 mi (0.6 km) downstream at datum 9.00 ft (2.743 m) lower.

REMARKS.--Records good except those for winter period, which are fair. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation of about 412,000 acres (1,670 km^2), and return flow from irrigated areas. Flow partly regulated by Pueblo Reservoir (station 07099350) since Jan. 9, 1974. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--34 years (water years 1940-73), 203 ft^3/s (5.749 m^3/s), 147,100 acre-ft/yr (181 hm^3/yr), prior to completion of Pueblo Dam; 5 years (water years 1975-79), 106 ft^3/s (3.002 m^3/s), 76,800 acre-ft/yr (94.7 hm^3/yr), subsequent to completion of Pueblo Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 44,000 ft^3/s (1,250 m^3/s) May 20, 1955, gage height, 15.03 ft (4.581 m), site and datum then in use, from rating curve extended above 24,000 ft^3/s (680 m^3/s), on basis of slope-area measurement of peak flow; minimum daily, 0.9 ft^3/s (0.025 m^3/s) July 31, Aug. 1, 3, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,120 ft^3/s (88.4 m^3/s) at 1100 June 24, gage height, 4.64 ft (1.414 m); minimum daily, 4.3 ft^3/s (0.12 m^3/s) Nov. 10, 11, 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	8.0	12	77	140	68	13	12	461	465	529	108
2	24	7.6	13	67	150	67	13	14	453	620	388	81
3	20	6.2	13	60	150	71	16	15	371	713	174	64
4	19	5.6	13	50	140	66	15	12	249	610	80	54
5	18	5.3	13	45	130	72	24	12	178	603	129	52
6	17	5.3	14	36	120	67	18	10	255	697	160	38
7	18	5.3	14	27	117	99	17	9.1	437	650	93	43
8	17	4.8	14	20	119	100	16	9.4	657	452	50	47
9	15	5.3	14	19	122	58	15	12	1190	528	45	45
10	15	4.3	14	22	138	45	17	12	1440	424	41	37
11	14	4.3	14	25	156	41	18	10	1190	424	47	36
12	15	5.3	14	26	160	40	34	10	305	435	85	35
13	14	5.3	14	18	170	37	156	11	150	354	110	36
14	13	5.4	13	15	180	34	80	11	117	317	113	39
15	13	4.8	13	31	170	33	31	12	134	388	122	47
16	12	4.3	16	44	130	27	25	14	237	445	64	70
17	14	4.8	29	46	80	23	22	9.8	614	343	42	155
18	11	8.0	18	44	100	19	19	9.6	484	513	111	127
19	8.0	12	20	47	110	18	19	10	609	352	249	65
20	8.0	13	30	59	107	18	18	11	453	192	332	40
21	8.0	18	56	58	102	20	16	10	565	130	370	31
22	9.4	13	75	55	98	19	15	12	693	395	273	24
23	9.4	14	66	38	84	19	15	417	624	488	218	16
24	9.4	13	62	48	95	18	15	402	1770	527	275	14
25	9.4	14	74	80	102	18	16	425	952	580	356	13
26	10	12	68	90	94	18	15	528	240	467	534	14
27	10	12	85	85	100	18	15	463	196	254	495	12
28	9.4	12	85	80	91	18	14	486	94	383	439	12
29	8.7	12	100	81	---	14	13	476	506	470	447	12
30	8.7	12	100	91	---	13	12	664	406	400	284	11
31	8.2	---	81	110	---	15	---	298	---	500	154	---
TOTAL	412.6	256.9	1167	1594	3455	1193	732	4406.9	16030	14119	6809	1378
MEAN	13.3	8.56	37.6	51.4	123	38.5	24.4	142	534	455	220	45.9
MAX	27	18	100	110	180	100	156	664	1770	713	534	155
MIN	8.0	4.3	12	15	80	13	12	9.1	94	130	41	11
AC-FT	818	510	2310	3160	6850	2370	1450	8740	31800	28010	13510	2730

CAL YR 1978 TOTAL 35227.1 MEAN 96.5 MAX 3300 MIN 4.3 AC-FT 69870
WTR YR 1979 TOTAL 51553.4 MEAN 141 MAX 1770 MIN 4.3 AC-FT 102300

07124050 MIDDLE FORK PURGATOIRE RIVER AT STONEWALL, CO

LOCATION.--Lat 37°09'10", long 105°00'45", Las Animas County, Hydrologic Unit 11020010, Maxwell Grant, on right bank, 0.3 mi (0.5 km) east of Stonewall, 0.6 mi (1.0 km) upstream from Crooked Creek, and 7 mi (11 km) northeast of Torres.

DRAINAGE AREA.--52.1 mi^2 (134.9 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 7,710 ft (2,350 m), from topographic map. Prior to June 14, 1978 at present site at datum 2.70 ft (0.82 m) lower.

REMARKS.--Records good except those for winter period which are fair. Some diversions for irrigation above station.

EXTREMES FOR PERIOD OF RECORD.-Maximum discharge, 172 ft^3/s (4.87 m^3/s) Aug. 14, 1979, gage height, 5.45 ft (1.661 m); minimum daily, 2.8 ft^3/s (0.079 m^3/s) Mar. 17, 18, 1979.

EXTREMES FOR 1978.--Maximum discharge, 79 ft^3/s at 0300 June 30, gage height, 4.98 ft (1.518 m); no peak above base of 100 ft^3/s (2.8 m^3/s), during period May to September; minimum daily, 3.8 ft^3/s (0.11 m^3/s) Sept. 16, 17.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 172 ft^3/s (4.87 m^3/s) at 2045 Aug. 14, gage height, 5.45 ft (1.661 m), only peak above base of 100 ft^3/s (2.8 m^3/s); minimum daily, 2.8 ft^3/s (0.079 m^3/s) Mar. 17, 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								---	38	62	14	7.5
2								---	38	55	13	7.5
3								---	43	49	16	7.0
4								---	44	41	19	7.0
5								---	41	37	18	7.0
6								---	42	33	15	6.5
7								---	34	26	14	6.5
8								---	30	24	14	6.0
9								12	32	29	13	6.0
10								13	39	35	13	5.7
11								13	40	28	13	5.1
12								14	42	26	11	4.8
13								14	45	25	10	4.8
14								17	60	26	9.5	4.8
15								19	72	27	8.0	4.1
16								23	74	26	8.5	3.8
17								24	66	25	8.5	3.8
18								29	63	25	8.5	4.1
19								26	65	23	9.0	4.1
20								21	67	20	9.0	4.4
21								21	67	17	8.5	5.1
22								17	67	17	9.0	5.1
23								19	58	17	9.0	4.8
24								29	55	18	9.0	4.4
25								30	56	16	9.0	5.4
26								30	56	16	8.5	7.0
27								30	62	17	8.5	5.1
28								28	62	14	8.5	4.8
29								26	57	13	8.0	4.4
30								26	72	16	8.0	4.4
31								31	---	16	8.0	---
TOTAL								---	1587	819	338.0	161.0
MEAN								---	52.9	26.4	10.9	5.37
MAX								---	74	62	19	7.5
MIN								---	30	13	8.0	3.8
AC-FT								---	3150	1620	670	319

07124050 MIDDLE FORK PURGATOIRE RIVER AT STONEWALL, CO--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.1	4.1	5.5	3.5	4.5	3.8	3.8	7.0	66	85	24	14
2	3.8	4.1	5.0	3.5	4.4	3.4	3.8	7.5	64	78	22	14
3	3.9	4.8	4.5	4.0	4.4	3.4	3.8	9.0	64	71	21	13
4	4.4	6.0	4.5	4.2	4.4	3.5	3.7	9.0	65	64	19	13
5	4.1	5.1	4.5	4.1	4.4	3.6	3.6	5.7	68	63	17	12
6	4.1	4.4	4.0	3.8	4.4	3.7	3.8	6.4	73	60	17	12
7	4.1	4.1	3.8	3.6	4.4	3.8	3.8	8.5	78	55	17	13
8	3.8	4.4	3.5	3.6	4.4	3.8	4.4	13	90	52	17	12
9	3.8	4.8	4.5	4.0	4.4	3.6	4.8	15	77	49	17	12
10	3.8	4.8	5.2	4.5	4.3	3.6	4.8	13	64	46	21	11
11	3.6	4.8	5.4	5.0	4.3	4.0	4.1	11	63	42	23	12
12	3.4	5.1	5.4	5.0	4.2	3.8	3.6	12	68	39	21	12
13	3.4	4.1	5.0	4.5	4.1	3.8	3.6	12	74	37	23	15
14	3.4	4.8	4.5	4.4	4.1	3.8	4.1	12	84	37	85	20
15	3.4	4.5	4.2	5.5	4.3	3.4	4.1	13	85	45	100	17
16	3.4	4.5	4.0	4.8	4.4	3.6	4.8	14	91	45	62	15
17	3.4	4.5	4.0	4.7	4.3	2.8	5.1	20	78	40	45	13
18	3.4	5.0	4.5	4.8	4.3	2.8	5.7	21	79	40	39	12
19	3.4	5.0	4.8	5.1	4.2	3.1	6.0	23	73	36	35	11
20	3.4	5.0	4.0	5.4	4.4	3.4	5.7	28	66	32	30	11
21	5.4	5.0	3.9	5.8	4.5	3.6	5.7	37	62	30	27	12
22	6.4	5.1	3.8	6.0	4.5	3.6	5.7	32	63	30	24	12
23	4.8	4.8	3.7	5.8	4.4	3.6	6.4	36	65	30	24	10
24	4.4	4.4	4.0	5.8	4.3	3.8	6.0	44	77	29	22	9.5
25	4.8	4.8	3.9	5.8	4.3	3.4	5.7	48	79	29	21	9.0
26	4.8	4.5	3.8	5.6	4.1	3.6	5.4	64	78	30	21	8.0
27	4.8	4.5	4.0	5.5	3.8	3.6	5.4	64	79	31	24	8.0
28	4.8	4.5	4.2	5.2	3.4	3.6	6.7	66	80	30	19	7.5
29	4.4	5.0	4.2	5.4	---	3.8	6.4	78	82	29	20	7.0
30	4.1	5.0	4.0	4.8	---	4.1	6.7	80	80	28	19	7.0
31	4.1	---	4.0	4.8	---	4.1	---	71	---	27	16	---
TOTAL	126.8	141.5	134.3	148.5	119.9	111.5	147.2	880.1	2215	1339	892	354.0
MEAN	4.09	4.72	4.33	4.79	4.28	3.60	4.91	28.4	73.8	43.2	28.8	11.8
MAX	6.4	6.0	5.5	6.0	4.5	4.1	6.7	80	91	85	100	20
MIN	3.4	4.1	3.5	3.5	3.4	2.8	3.6	5.7	62	27	16	7.0
AC-FT	252	281	266	295	238	221	292	1750	4390	2660	1770	702

WTR YR 1979 TOTAL 6609.8 MEAN 18.1 MAX 100 MIN 2.8 AC-FT 13110

07124050 MIDDLE FORK PURGATOIRE RIVER AT STONEWALL, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--January 1978 to September 1979.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1978 to September 1979.
WATER TEMPERATURES: October 1978 to September 1979.

INSTRUMENTATION.--Water-quality monitor since July 1978. Pumping sediment sampler since July 1978.

REMARKS.--Water-quality data for 1978 water year published in this volume.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 439 micromhos Dec. 18, 1978; minimum, 121 micromhos May 30, 1979.
WATER TEMPERATURES: Maximum, 21.0°C Aug. 6, 1979; minimum, freezing point on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 439 micromhos Dec. 18; minimum, 121 micromhos May 30.
WATER TEMPERATURES: Maximum, 21.0°C Aug. 6; minimum, freezing point on many days during winter months.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
JUN 07...	1700	30	265	7.6	12.0	7.7	86	0	23	6.9
JUL 25...	1200	15	300	8.4	16.0	--	140	32	42	8.2
SEP 14...	0945	4.9	300	8.4	9.0	8.4	140	33	44	7.2

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
JUN 07...	16	.8	2.7	150	--	120	29	2.1	.5
JUL 25...	6.3	.2	1.0	130	0	110	39	1.4	.2
SEP 14...	6.3	.2	1.1	130	0	110	35	1.2	.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JUN 07...	6.3	163	.22	13.2	.54	.02	10	80	10
JUL 25...	8.1	172	.23	7.11	.07	--	40	100	20
SEP 14...	7.9	167	.23	2.21	.08	.00	0	20	10

07124050 MIDDLE FORK PURGATOIRE RIVER AT STONEWALL, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT										
11...	1600	3.3	330	7.9	14.0	7.8	150	36	45	9.3
NOV										
30...	1130	5.9	370	7.6	.5	10.8	140	40	42	8.2
MAY										
02...	1230	7.7	215	7.4	11.5	8.1	100	13	33	5.1
29...	1813	77	125	--	11.5	--	57	11	19	2.3
AUG										
22...	1321	26	220	8.0	13.0	--	97	17	30	5.3

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
OCT										
11...	9.0	.3	1.2	140	0	110	53	1.4	.3	8.0
NOV										
30...	7.4	.3	1.1	120	0	98	47	1.3	.2	7.9
MAY										
02...	3.9	.2	1.0	110	0	90	20	.8	.2	6.4
29...	2.1	.1	1.0	56	--	46	11	.7	.2	6.1
AUG										
22...	4.5	.2	.9	--	--	80	29	.6	.2	6.5

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)
OCT										
11...	197	1.80	.04	.00	90	40	0	0	40	2
NOV										
30...	175	2.81	.14	.00	--	--	--	--	30	--
MAY										
02...	125	2.62	.04	.01	180	10	--	--	10	--
29...	71	14.9	.15	.01	1300	40	0	0	20	0
AUG										
22...	126	8.85	.13	.00	190	0	--	--	10	--

07124050 MIDDLE FORK PURGATOIRE RIVER AT STONEWALL, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	CADMIUM DIS-SOLVED (UG/L AS CD)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)
OCT										
11...	2	4	0	100	20	3	0	10	10	.0
NOV										
30...	--	--	--	1100	20	--	--	30	9	--
MAY										
02...	--	--	--	160	20	19	0	20	0	--
29...	0	7	1	1400	30	40	0	70	0	.3
AUG										
22...	--	--	--	180	30	0	0	20	10	--

DATE	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C)
OCT										
11...	.0	1	0	1	2	0	0	20	0	.4
NOV										
30...	--	--	--	--	--	--	--	--	--	--
MAY										
02...	--	--	--	--	--	--	--	10	10	--
29...	.2	0		7	0	0	0	20	10	--
AUG										
22...	--	--	--	--	--	--	--	0	<3	--

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	321	369	316	264	289	297	212	145	159	215	243
2	---	319	367	324	264	285	---	207	153	160	216	243
3	---	337	384	311	264	277	---	200	152	160	220	245
4	---	352	371	298	264	290	---	209	149	168	222	238
5	---	326	390	286	263	299	---	229	151	171	220	242
6	---	328	393	279	260	308	---	226	149	168	221	252
7	---	330	384	277	260	305	---	212	146	164	222	254
8	---	331	398	280	258	299	---	196	147	164	216	257
9	---	329	394	276	258	285	---	178	144	162	214	255
10	---	324	379	270	260	302	---	178	145	161	220	256
11	---	334	379	269	292	305	---	184	140	161	231	258
12	---	351	375	310	288	299	---	185	141	163	241	259
13	---	358	385	295	338	296	---	189	138	165	242	270
14	---	326	382	289	361	296	---	191	137	168	276	284
15	---	344	377	276	325	302	---	186	135	174	268	292
16	---	375	370	275	305	300	---	184	139	191	237	283
17	---	363	391	292	298	296	---	173	141	190	222	277
18	---	349	439	316	289	294	226	169	140	189	224	274
19	---	353	408	301	282	293	218	155	149	189	230	273
20	---	338	384	288	280	308	220	159	157	190	230	274
21	---	345	385	285	281	320	220	178	162	191	226	273
22	---	360	356	281	274	310	221	152	164	192	226	284
23	---	349	365	284	273	302	217	158	165	193	229	290
24	---	350	340	274	275	302	221	172	164	195	228	290
25	---	390	331	268	280	297	230	161	168	199	226	289
26	---	387	331	268	286	294	233	140	167	200	227	289
27	326	375	328	274	273	294	226	134	161	205	227	288
28	314	386	319	273	284	289	215	130	155	208	231	291
29	313	362	313	267	---	287	211	122	156	216	235	291
30	311	369	311	268	---	294	209	121	159	210	249	293
31	317	---	313	267	---	297	---	140	---	210	246	---

07124050 MIDDLE FORK PURGATOIRE RIVER AT STONEWALL, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	10.0	3.5	4.0	.5	.0	.0	.0	.0	7.0	.0
2	---	---	10.0	2.0	1.0	.5	.0	.0	.0	.0	7.5	.0
3	---	---	6.5	4.5	.5	.5	.0	.0	.0	.0	3.0	.0
4	---	---	11.5	5.5	.5	.5	.5	.0	.0	.0	3.0	.0
5	---	---	7.0	3.0	1.0	.5	.5	.0	.0	.0	4.5	.0
6	---	---	7.5	1.5	.5	.5	.5	.0	.5	.0	7.0	.0
7	---	---	8.5	.5	.5	.5	.5	.0	.5	.0	9.0	.0
8	---	---	9.5	2.0	.5	.5	.0	.0	.5	.0	9.5	.0
9	---	---	9.0	2.0	.5	.5	.5	.0	.5	.0	3.5	.0
10	---	---	6.0	3.0	.5	.5	.5	.0	1.0	.0	6.0	.0
11	---	---	5.0	1.0	.5	.5	.5	.0	2.5	.0	8.0	.0
12	---	---	6.0	1.0	.5	.5	1.0	.0	3.0	.0	9.0	.0
13	---	---	6.0	.0	.5	.5	.5	.0	4.5	.0	8.0	.0
14	---	---	2.5	.0	.5	.0	.0	.0	5.5	.0	5.5	.0
15	---	---	2.5	.0	.5	.0	.5	.0	5.0	.0	9.0	.0
16	---	---	2.5	.0	.5	.0	.5	.0	5.5	.0	8.5	.0
17	---	---	3.5	.0	.5	.0	1.5	.0	4.0	.0	7.5	.0
18	---	---	4.5	.0	2.5	1.0	2.5	.0	3.5	.0	9.0	.0
19	---	---	3.0	.0	3.5	.0	.5	.0	4.0	.0	6.0	.5
20	---	---	4.0	.0	.5	.0	.5	.0	6.0	.0	9.0	1.0
21	---	---	4.0	.0	.5	.0	1.0	.0	5.0	.0	12.0	1.5
22	---	---	6.0	1.5	.5	.0	1.5	.0	3.0	.0	6.5	.0
23	---	---	5.5	.5	.5	.0	.0	.0	3.5	.0	10.0	.0
24	---	---	3.0	1.0	.5	.0	.0	.0	4.0	.0	10.0	.0
25	---	---	5.0	.5	.5	.0	.5	.0	4.5	.0	12.0	.0
26	8.5	3.0	3.0	.5	.0	.0	.0	.0	6.0	.0	13.0	.5
27	9.0	.5	2.5	.5	.5	.0	.0	.0	3.0	.0	13.0	1.0
28	9.5	1.0	.5	.5	.5	.0	.0	.0	6.0	.0	11.5	2.0
29	9.5	1.5	2.5	.5	.5	.0	.0	.0	---	---	10.5	1.0
30	8.5	1.5	3.0	.5	.5	.0	.0	.0	---	---	8.5	.0
31	10.0	3.0	---	---	.0	.0	.0	.0	---	---	12.5	1.5
MONTH	10.0	.5	11.5	.0	4.0	.0	2.5	.0	6.0	.0	13.0	.0

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.5	1.0	16.0	4.0	6.5	5.0	14.5	9.5	18.5	11.0	19.0	11.0
2	---	---	13.0	5.0	8.0	5.5	14.5	8.5	17.5	11.0	16.5	11.0
3	---	---	9.0	3.0	10.5	5.5	12.0	9.0	18.0	10.5	18.5	11.5
4	---	---	16.0	2.5	8.5	6.5	15.0	8.5	21.0	11.0	18.0	11.0
5	---	---	17.5	4.5	9.5	7.0	13.0	9.0	20.5	11.0	19.5	11.5
6	---	---	16.5	5.0	11.0	6.5	13.0	9.0	21.0	12.0	19.0	11.5
7	---	---	15.5	4.5	10.0	7.5	15.5	8.5	18.5	13.0	18.5	11.5
8	---	---	15.5	4.5	8.5	6.0	16.0	9.0	17.5	12.0	17.5	11.5
9	---	---	7.0	2.5	9.5	5.0	16.0	8.5	16.0	11.5	18.5	11.5
10	---	---	8.0	1.5	13.5	4.5	16.5	8.5	14.5	12.0	19.0	12.0
11	---	---	12.5	.0	14.5	5.5	16.0	8.5	19.5	12.0	17.0	12.0
12	---	---	12.0	3.0	15.0	6.5	16.5	9.0	18.0	12.5	14.0	12.0
13	---	---	16.0	2.5	15.0	7.0	17.5	9.0	18.5	11.5	16.5	11.5
14	---	---	17.5	4.0	14.0	7.5	13.5	10.0	16.0	14.0	12.5	10.0
15	---	---	12.5	5.0	13.0	8.0	15.5	10.0	15.5	13.5	15.0	9.0
16	---	---	13.0	5.5	14.5	7.5	14.5	10.0	15.0	12.0	15.0	9.0
17	---	---	10.5	5.5	13.5	7.0	15.0	10.0	14.0	12.0	14.0	9.5
18	17.0	6.0	17.5	4.5	13.5	6.5	14.5	10.0	13.5	11.5	15.5	10.0
19	15.0	4.0	11.0	6.0	11.5	6.0	14.5	9.5	13.5	11.0	15.5	9.5
20	15.5	3.5	7.5	5.0	14.5	5.5	16.5	9.0	13.5	11.0	15.0	10.5
21	11.0	2.5	13.0	4.0	15.5	6.5	15.0	10.0	14.5	10.5	14.5	11.0
22	15.5	3.0	10.5	4.5	13.5	7.0	15.5	10.5	16.0	10.5	16.0	10.0
23	17.0	4.5	13.5	5.0	15.5	7.0	18.0	10.5	17.0	11.5	17.0	10.0
24	16.0	5.5	9.5	5.0	13.0	8.5	18.5	11.0	17.0	11.0	16.5	10.5
25	10.5	4.5	9.0	5.0	12.5	7.0	18.0	12.5	17.0	11.0	15.5	10.5
26	14.5	4.5	8.0	5.5	14.0	7.5	16.5	12.0	15.5	11.5	16.5	10.5
27	16.0	4.0	9.5	4.0	14.0	8.0	17.5	11.5	18.5	10.5	16.0	10.5
28	16.0	4.5	11.0	4.5	13.5	8.5	17.0	12.5	19.0	11.0	16.0	10.5
29	9.5	4.0	11.5	5.0	14.5	8.5	18.5	13.0	16.5	11.0	16.5	10.5
30	8.5	3.0	6.5	5.0	14.0	9.0	15.5	11.5	17.5	11.0	16.5	10.5
31	---	---	6.0	5.0	---	---	17.0	11.0	18.0	11.0	---	---

07124100 MOLINO CANYON NEAR WESTON, CO

LOCATION.--Lat 37°07'56", long 104°48'35", in NE¼NW¼ sec.32, T.33 S., R.66 W., Las Animas County, Hydrologic Unit 10020010, on right bank 600 ft (180 m) upstream from State Highway 12, 800 ft (240 m) upstream from mouth, and 2.2 mi (3.5 km) east of Weston.

DRAINAGE AREA.--4.23 mi² (10.96 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1978 to September 1979 (seasonal record only).

GAGE.--Water-stage recorder and supercritical-flow flume. Altitude of gage is 6,760 ft (2,060 m) from topographic map.

REMARKS.--Records good except those above 60 ft³/s (1.7 m³/s) which are fair. Recording rain gage at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge for period June 1978 to September 1979, 469 ft³/s (13.3 m³/s) July 31, 1979, gage height, 6.33 ft (1.929 m); no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 469 ft³/s (13.3 m³/s) July 31, gage height, 6.33 ft (1.929 m), no flow most of time.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									---	.00	.02	.00
2									---	.00	2.3	.00
3									---	.00	.01	.00
4									---	.00	.00	.00
5									---	.00	.00	.00
6									---	.00	.00	.00
7									---	.00	.00	.00
8									.00	.00	.00	.00
9									.00	.02	.00	.00
10									.00	.29	.00	.00
11									.00	.00	.00	.00
12									.00	.00	.00	.00
13									.00	.00	.00	.00
14									.00	.00	.00	.00
15									.00	.00	.00	.00
16									.00	.00	.00	.00
17									.00	.00	.00	.00
18									.00	.00	.00	.00
19									.00	.00	.00	.00
20									.00	.03	.00	.00
21									.00	.00	.00	.00
22									.00	.00	.00	.00
23									.00	.00	.00	.00
24									.00	.00	.00	.00
25									.00	.00	2.3	.00
26									.00	.00	.00	.00
27									7.7	.00	.00	.00
28									.09	.00	.00	.00
29									.00	.00	.00	.00
30									.00	.00	.00	.00
31									---	4.7	.13	---
TOTAL									---	5.04	4.76	.00
MEAN									---	.16	.15	.000
MAX									---	4.7	2.3	.00
MIN									---	.00	.00	.00
AC-FT									---	10.0	9.4	.00

07124100 MOLINO CANYON NEAR WESTON, CO--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							.00	.00	.00	.00	.10	.00
2							.00	.00	.00	.00	.00	.00
3							.00	.00	.00	.38	.00	.00
4							.00	.00	.00	.00	.00	.00
5							.00	.00	.00	.00	.00	.00
6							.00	.00	.00	.00	.00	.00
7							.00	.00	.19	.00	.00	.00
8							.00	.00	.25	.00	.00	.00
9							.00	.21	.00	.00	.00	.00
10							.00	.12	.00	.00	.00	.00
11							.00	.01	.00	.00	.00	.00
12							.00	.00	.00	.00	.00	.00
13							.00	.00	.00	.00	2.3	9.9
14							.00	.00	.00	.80	8.0	.70
15							.00	.00	.00	10	6.6	.00
16							.00	.00	.00	.05	.00	.00
17							.00	.00	.00	6.7	.00	.00
18							.00	.00	.00	9.6	.00	.00
19							.00	.00	.00	.21	.00	.00
20							.00	.00	.00	.00	.00	.00
21							.00	.00	.00	.00	.00	.00
22							.00	.00	.00	.00	.00	.00
23							.00	.00	2.5	.00	.00	.00
24							.00	.00	.43	.00	.00	.00
25							.00	.12	.00	.00	2.1	.00
26							.00	.08	.00	.06	.19	.00
27							.00	.00	.00	.00	.01	.00
28							.00	.02	.00	.00	.00	.00
29							.00	.00	.00	.00	.00	.00
30							.00	.31	.00	.00	.00	.00
31							---	.11	---	15	.00	---
TOTAL							.00	.98	3.37	42.80	19.30	10.60
MEAN							.000	.032	.11	1.38	.62	.35
MAX							.00	.31	2.5	15	8.0	9.9
MIN							.00	.00	.00	.00	.00	.00
AC-FT							.00	1.9	6.7	85	38	21

07124100 MOLINO CANYON NEAR WESTON, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 1978 to September 1979 (seasonal record only).

PERIOD OF DAILY RECORD.--
SUSPENDED SEDIMENT DISCHARGE: October 1978 to September 1979.

INSTRUMENTATION.--Pumping sediment sampler since October 1978.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily, 12,600 mg/L Aug. 14, 1979; minimum daily, no flow many days during the year.
SEDIMENT LOADS: Maximum daily, 3,070 tons (2,790 t) July 31, 1979; minimum daily, no flow many days during the year.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily, 12,600 mg/L Aug. 14; minimum daily, no flow many days during the year.
SEDIMENT LOADS: Maximum daily, 3,070 tons (2,790 t) July 31; minimum daily, no flow many days during the year.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	.00			.00		---	.00	---	---
2	.00			.00		---	.00	---	---
3	.00			.00		---	.00	---	---
4	.00			.00		---	.00	---	---
5	.00			.00		---	.00	---	---
6	.00			.00		---	.00	---	---
7	.00			.00		---	.19	649	7.3
8	.00			.00		---	.25	---	2.5
9	.00			.21		3.0	.00	---	---
10	.00			.12		.30	.00	---	---
11	.00			.01		---	.00	---	---
12	.00			.00		---	.00	---	---
13	.00			.00		---	.00	---	---
14	.00			.00		---	.00	---	---
15	.00			.00		---	.00	---	---
16	.00			.00		---	.00	---	---
17	.00			.00		---	.00	---	---
18	.00			.00		---	.00	---	---
19	.00			.00		---	.00	---	---
20	.00			.00		---	.00	---	---
21	.00			.00		---	.00	---	---
22	.00			.00		---	.00	---	---
23	.00			.00		---	2.5	4790	94
24	.00			.00		---	.43	524	7.0
25	.00			.12		.30	.00	---	---
26	.00			.08		.20	.00	---	---
27	.00			.00		.00	.00	---	---
28	.00			.02		.05	.00	---	---
29	.00			.00		.00	.00	---	---
30	.00			.31		6.0	.00	---	---
31	---			.11		.10	---	---	---
TOTAL	0.00			0.98		9.95	3.37	---	110.8

07124100 MOLINO CANYON NEAR WESTON, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	.00	---	---	.10	---	1.5	.00	---	---
2	.00	---	---	.00	---	---	.00	---	---
3	.38	5960	52	.00	---	---	.00	---	---
4	.00	---	---	.00	---	---	.00	---	---
5	.00	---	---	.00	---	---	.00	---	---
6	.00	---	---	.00	---	---	.00	---	---
7	.00	---	---	.00	---	---	.00	---	---
8	.00	---	---	.00	---	---	.00	---	---
9	.00	---	---	.00	---	---	.00	---	---
10	.00	---	---	.00	---	---	.00	---	---
11	.00	---	---	.00	---	---	.00	---	---
12	.00	---	---	.00	---	---	.00	---	---
13	.00	---	---	2.3	---	170	9.9	7560	1050
14	.80	---	44	8.0	12600	489	.70	---	20
15	10	6760	1690	6.6	6730	311	.00	---	---
16	.05	---	.40	.00	---	---	.00	---	---
17	6.7	12200	2060	.00	---	---	.00	---	---
18	9.6	9620	1780	.00	---	---	.00	---	---
19	.21	---	1.5	.00	---	---	.00	---	---
20	.00	---	---	.00	---	---	.00	---	---
21	.00	---	---	.00	---	---	.00	---	---
22	.00	---	---	.00	---	---	.00	---	---
23	.00	---	---	.00	---	---	.00	---	---
24	.00	---	---	.00	---	---	.00	---	---
25	.00	---	---	2.1	4980	152	.00	---	---
26	.06	---	.15	.19	---	1.0	.00	---	---
27	.00	---	---	.01	---	.00	.00	---	---
28	.00	---	---	.00	---	---	.00	---	---
29	.00	---	---	.00	---	---	.00	---	---
30	.00	---	---	.00	---	---	.00	---	---
31	15	10400	3070	.00	---	---	---	---	---
TOTAL	42.80	---	8698.05	19.30	---	1124.50	10.60	---	1070
YEAR	77.05		11013.30						

07124120 SARCILLO CANYON NEAR SEGUNDO, CO

LOCATION.-Lat 37°07'26", long 104°45'49", in NW¼SE¼ sec.34, T.33 S., R.66 W., Las Animas County, Hydrologic Unit 11020010, on right bank about 300 ft (91.4 m) upstream from State Highway 12 bridge, 1.5 mi (2.4 km) west of Segundo, and 500 ft (152 m) upstream from mouth.

DRAINAGE AREA.--35.3 mi² (91.4 km²).

PERIOD OF RECORD.--June 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,600 ft (2,012 m), from topographic map.

REMARKS.--Records fair. No diversions above station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,770 ft³/s (107 m³/s) July 31, 1979, gage height, 10.03 ft (3.06 m), from floodmarks, from rating curve extended above 3,380 ft³/s (95.7 m³/s); minimum daily, 0.01 ft³/s (0.001 m³/s) June 28, July 9, 10, 1979.

EXTREMES FOR 1978.--Peak discharges above base of 500 ft³/s (14 m³/s) and maximum (*), for period April to September:

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
June 27	1400	*567	16.1	6.06	1.847	July 10	1530	534	15.1	5.99	1.826

Minimum daily discharge, 0.03 ft³/s (0.001 m³/s) June 21-26.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft³/s (14 m³/s) and maximum:

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
July 17	2100	1,960	55.5	7.75	2.362	Aug. 25	1830	3,380	95.7	9.60	2.926
July 18	1930	3,380	95.7	9.60	2.926	Sept. 13	1800	1,300	36.8	6.85	2.088
July 31	1700	*3,770	107	10.03	3.057						

Minimum daily discharge, 0.01 ft³/s (0.001 m³/s) June 28, July 9, 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									---	.07	.23	.07
2									---	.05	8.2	.05
3									---	.05	1.2	.07
4									---	.05	.24	.05
5									---	.05	.05	.05
6									.05	.05	.05	.05
7									.07	.05	.05	.05
8									.12	.05	.05	.05
9									.09	.31	.05	.05
10									.07	23	.07	.05
11									.07	.42	.07	.05
12									.07	3.5	.07	.05
13									.07	.09	.07	.05
14									.07	.07	.07	.05
15									.05	.05	.07	.05
16									.05	.05	.07	.05
17									.05	.05	.07	.05
18									.05	.05	.07	.05
19									.05	.05	.07	.05
20									.05	4.7	.07	.05
21									.03	1.2	.07	.05
22									.03	.56	.07	.07
23									.03	.07	.05	.07
24									.03	.05	.07	.09
25									.03	.05	2.2	.09
26									.03	.05	.41	.09
27									39	.05	.05	.09
28									4.5	.05	.05	.09
29									.23	.05	.05	.09
30									.14	.16	.05	.07
31									---	3.6	.26	---
TOTAL									---	38.65	14.22	1.84
MEAN									---	1.25	.46	.061
MAX									---	23	8.2	.09
MIN									---	.05	.05	.05
AC-FT									---	77	28	3.6

07124120 SARCILLO CANYON NEAR SEGUNDO, CO--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.09	.07	.12	.02	.03	.12	.09	.07	.28	.09	2.0	.09
2	.09	.07	.09	.02	.03	.12	.07	.05	.69	.07	.24	.09
3	.09	.09	.12	.03	.03	.10	.12	.03	.20	.42	.12	.09
4	.09	.12	.12	.03	.03	.09	.05	.03	.09	.09	.09	.09
5	.09	.12	.12	.03	.04	.09	.05	.03	.09	.07	.12	.09
6	.07	.09	.09	.03	.05	.10	.05	.03	.09	.05	.20	.12
7	.07	.09	.05	.03	.05	.12	.03	.03	1.6	.03	.20	.12
8	.07	.09	.03	.03	.07	.12	.03	.03	.64	.03	.20	.12
9	.07	.09	.03	.04	.09	.10	.03	.12	.28	.01	.37	.12
10	.07	.09	.04	.03	.09	.10	.03	.12	.16	.01	.42	.16
11	.07	.12	.05	.04	.12	.12	.03	.05	.12	.03	.47	.16
12	.07	.12	.09	.04	.12	.12	.03	.05	.09	.07	.42	.24
13	.07	.12	.09	.03	.14	.09	.03	.05	.07	.07	.42	57
14	.09	.09	.09	.03	.14	.09	.04	.03	.07	9.9	42	7.8
15	.09	.16	.09	.04	.12	.09	.04	.03	.07	13	24	.16
16	.09	.16	.07	.04	.10	.09	.04	.07	.05	.34	.99	.07
17	.09	.16	.07	.04	.10	.09	.04	.05	.05	65	.62	.07
18	.12	.16	.07	.04	.10	.09	.03	.05	.05	125	.52	.07
19	.12	.20	.07	.04	.12	.09	.03	.07	.05	5.1	.37	.07
20	.12	.20	.05	.04	.12	.09	.05	.20	.05	.28	.28	.07
21	.16	.20	.05	.04	.12	.16	.05	.16	.05	.20	.32	.07
22	.24	.20	.05	.04	.12	.16	.05	.16	.05	.20	.24	.07
23	.16	.20	.05	.02	.10	.12	.05	.16	3.7	.16	.28	.07
24	.12	.20	.05	.02	.10	.12	.05	.39	.40	.42	.20	.07
25	.12	.16	.05	.03	.10	.12	.07	.32	.16	.85	264	.07
26	.09	.16	.04	.03	.12	.12	.09	.47	.09	.24	8.6	.07
27	.07	.16	.05	.03	.12	.14	.07	.16	.07	.16	.24	.07
28	.07	.16	.05	.02	.12	.16	.07	.23	.01	.16	.16	.07
29	.07	.16	.05	.02	---	.12	.09	.16	.03	.50	.12	.07
30	.07	.12	.03	.02	---	.09	.09	1.2	.03	.20	.12	.07
31	.07	---	.03	.02	---	.09	---	.24	---	119	.12	---
TOTAL	2.97	4.13	2.05	.96	2.59	3.42	1.59	4.84	9.38	341.75	348.45	67.50
MEAN	.096	.14	.066	.031	.093	.11	.053	.16	.31	11.0	11.2	2.25
MAX	.24	.20	.12	.04	.14	.16	.12	1.2	3.7	125	264	57
MIN	.07	.07	.03	.02	.03	.09	.03	.03	.01	.01	.09	.07
AC-FT	5.9	8.2	4.1	1.9	5.1	6.8	3.2	9.6	19	678	691	134

WTR YR 1979 TOTAL 789.63 MEAN 2.16 MAX 264 MIN .01 AC-FT 1570

07124200 PURGATOIRE RIVER AT MADRID, CO

LOCATION.--Lat 37°07'46", long 104°38'20", in SW¼NE¼ sec.35, T.33 S., R.65 W., Las Animas County, Hydrologic Unit 11020010, on left bank 70 ft (21 m) downstream from county bridge, 0.3 mi (0.5 km) northeast of Madrid, and 1.0 mi (1.6 km) downstream from Burro Canyon.

DRAINAGE AREA.--550 mi² (1,420 km²), approximately.

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--March 1972 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6,261.61 ft (1,908.539 m) National Geodetic Vertical Datum of 1929 (U.S. Army, Corps of Engineers bench mark).

REMARKS.--Records good except those for winter period and those above 800 ft³/s (22.7 m³/s), which are fair. Diversions for irrigation of about 6,000 acres (24.3 km²) above station.

AVERAGE DISCHARGE.--7 years, 45.7 ft³/s (1.294 m³/s), 33,110 acre-ft/yr (40.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,300 ft³/s (405 m³/s) July 20, 1976, gage height, 12.80 ft (3.901 m), from floodmarks, from rating curve extended above 300 ft³/s (8.5 m³/s), on basis of drift-timed measurement of peak flow; minimum daily, 3.0 ft³/s (0.085 m³/s) Feb. 23 to Mar. 2, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 400 ft³/s (11 m³/s), and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
May 23	2000	1,840	52.1	5.00	1.524	July 24	2130	1,050	29.7	3.24	0.988
May 24	1900	1,170	33.1	4.20	1.280	July 31	1800	6,330	179	b8.10	2.469
May 25	1430	645	18.3	3.38	1.030	Aug. 11	2000	1,270	36.0	3.47	1.058
May 30	2200	560	15.9	a4.0	1.219	Aug. 12	2200	536	15.2	2.65	0.716
June 24	2000	680	19.3	a3.5	1.067	Aug. 14	0230	*6,620	187	b8.36	2.548
July 14	1600	1,030	29.2	a4.0	1.219	Aug. 15	1300	1,410	39.9	3.59	1.094
July 15	2000	680	19.3	a3.5	1.067	Aug. 18	1600	895	25.3	a3.1	0.945
July 16	2100	1,030	29.2	a4.0	1.219	Aug. 25	1930	1,260	35.7	3.44	1.048
July 17	2200	3,610	102	b5.63	1.716	Sept. 13	1930	1,930	26.3	4.10	1.250
July 18	2100	3,470	98.3	b5.50	1.676						

a Peak estimated from partial record.
b From floodmarks.

Minimum daily discharge, 7.6 ft³/s (0.215 m³/s) Oct. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.6	14	16	8.0	8.0	10	9.8	25	312	262	114	54
2	8.4	14	13	9.0	9.0	9.7	10	23	288	273	73	48
3	8.7	14	10	10	10	11	11	25	280	259	68	48
4	9.2	18	13	10	11	8.8	10	27	276	248	60	42
5	9.0	20	14	8.0	11	9.5	9.8	25	284	231	56	41
6	7.6	17	12	8.0	12	11	9.6	22	288	225	53	35
7	9.8	16	10	8.0	12	11	9.1	23	300	211	50	34
8	9.8	15	9.0	9.0	12	10	8.9	26	328	196	58	31
9	9.4	15	9.0	9.0	13	11	11	36	372	186	60	29
10	9.8	14	10	9.0	13	11	12	47	344	170	66	31
11	9.6	15	13	9.0	15	10	12	40	316	155	182	27
12	9.4	17	19	12	18	10	11	37	296	132	196	33
13	8.8	17	25	12	23	10	10	28	308	122	93	247
14	9.9	14	25	9.0	30	9.6	10	22	324	192	1410	211
15	11	14	25	9.0	27	9.5	10	22	332	170	940	99
16	10	15	30	10	26	9.5	10	25	352	220	308	81
17	10	15	30	12	24	9.3	12	36	356	460	163	68
18	10	20	28	10	21	9.6	12	62	332	580	240	61
19	11	17	25	8.5	20	9.3	14	71	280	174	152	55
20	10	12	22	8.4	20	9.4	16	85	231	122	122	46
21	11	14	19	8.0	13	10	17	126	196	109	112	47
22	23	16	19	8.0	12	11	18	113	186	107	101	64
23	18	14	19	8.0	8.8	10	19	305	218	111	96	51
24	14	14	17	8.0	8.8	10	21	282	290	142	93	46
25	15	16	16	10	9.6	8.8	23	252	273	141	164	43
26	16	15	16	9.0	12	8.8	23	308	245	131	108	41
27	15	15	18	8.0	11	8.8	23	304	245	133	103	39
28	14	13	18	8.0	10	8.1	23	304	252	125	78	34
29	14	16	12	8.0	---	8.2	24	328	256	154	70	31
30	14	17	9.0	8.0	---	9.0	27	400	259	117	73	30
31	14	---	8.0	8.0	---	9.3	---	348	---	710	62	---
TOTAL	358.0	463	529.0	278.9	420.2	301.2	436.2	3777	8619	6548	5524	1747
MEAN	11.5	15.4	17.1	9.00	15.0	9.72	14.5	122	287	211	178	58.2
MAX	23	20	30	12	30	11	27	400	372	710	1410	247
MIN	7.6	12	8.0	8.0	8.0	8.1	8.9	22	186	107	50	27
AC-FT	710	918	1050	553	833	597	865	7490	17100	12990	10960	3470

CAL YR 1978 TOTAL 17734.0 MEAN 48.6 MAX 640 MIN 4.5 AC-FT 35180
WTR YR 1979 TOTAL 29001.5 MEAN 79.5 MAX 1410 MIN 7.6 AC-FT 57520

07124200 PURGATOIRE RIVER AT MADRID, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1978 to September 1979.

PERIOD OF RECORD.--
  SPECIFIC CONDUCTANCE: October 1978 to September 1979.
  WATER TEMPERATURE: October 1978 to September 1979.

INSTRUMENTATION.--Water-quality monitor since July 1978. Pumping sediment sampler since July 1978.

EXTREMES FOR PERIOD OF DAILY RECORD.--
  SPECIFIC CONDUCTANCE: Maximum, 450 micromhos Oct. 4, 1978; minimum, 149 micromhos Aug. 15, 1979.
  WATER TEMPERATURES: Maximum, 30.5°C Aug. 6, 1979; minimum, 1.0°C Mar. 30, 1979.

EXTREMES FOR CURRENT YEAR.--
  SPECIFIC CONDUCTANCE: Maximum, 450 micromhos Oct. 4; minimum, 149 micromhos Aug. 15.
  WATER TEMPERATURES: Maximum, 30.5°C Aug. 6; minimum, 1.0°C Mar. 30.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT										
04...	1435	9.4	450	7.9	20.5	E7.1	180	12	49	13
NOV										
29...	1700	21	440	7.8	2.5	10.6	170	10	50	12
MAY										
01...	1605	26	320	8.4	15.5	7.2	140	16	40	9.5
22...	1625	117	225	7.6	16.5	7.5	110	24	35	6.6
AUG										
14...	1123	310	270	7.8	15.5	--	--	--	--	--
15...	1202	1510	205	8.0	15.0	--	--	--	--	--

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
OCT										
04...	22	.7	2.5	200	0	160	48	2.6	.5	6.5
NOV										
29...	23	.8	1.7	200	0	160	53	2.6	.3	7.0
MAY										
01...	14	.5	1.7	150	0	120	33	1.8	.4	6.1
22...	6.6	.3	1.8	110	0	90	20	1.2	.4	7.2
AUG										
14...	--	--	--	100	--	82	--	--	--	--
15...	--	--	--	95	--	78	--	--	--	--

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BORON, DIS-SOLVED (UG/L AS B)
OCT										
04...	243	.33	6.19	.01	.01	120	20	0	0	30
NOV										
29...	249	.34	14.1	.12	.00	--	--	--	--	30
MAY										
01...	181	.25	12.7	.09	.01	1300	10	--	--	20
22...	134	.18	42.3	.13	.03	--	--	--	--	10
AUG										
14...	--	--	--	--	--	--	--	9	--	--
15...	--	--	--	--	--	--	--	9	--	--

07124200 PURGATOIRE RIVER AT MADRID, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT										
04...	0	1	40	2	120	20	2	3	10	0
NOV										
29...	--	--	--	--	2000	20	--	--	110	10
MAY										
01...	--	--	--	--	1800	30	49	0	70	0
22...	--	--	--	--	26000	30	--	--	720	0
AUG										
14...	2	--	280	--	170000	--	130	--	4600	--
15...	1	--	460	--	300000	--	190	--	7400	--

DATE	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
OCT										
04...	.0	.0	3	1	2	0	1	1	20	10
NOV										
29...	--	--	--	--	--	--	--	--	--	--
MAY										
01...	--	--	--	--	--	--	--	--	30	10
22...	--	--	--	--	--	--	--	--	--	--
AUG										
14...	1.3	--	6	--	130	--	4	--	610	--
15...	1.1	--	0	--	150	--	5	--	1100	--

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						---	---	320			291	314
2						---	---	321			320	316
3						---	---	320			316	319
4						---	390	320			318	322
5						---	397	323			318	323
6						---	399	329			315	331
7						---	402	328			310	329
8						---	400	320			296	332
9						---	392	295			271	335
10						---	379	271			255	334
11						---	373	295			230	346
12						---	375	311			205	341
13						---	379	326			209	310
14						---	---	340			167	253
15						---	---	344			149	332
16						---	---	332			200	343
17						---	374	317			217	342
18						---	375	283			225	347
19						---	367	272			250	349
20						---	349	251			276	352
21						---	337	252			292	348
22						---	333	247			290	340
23						---	334	239			293	359
24						---	329	238			296	363
25						---	314	---			284	365
26						---	314	---			298	364
27						---	314	---			288	367
28						423	317	---			324	368
29						424	317	---			337	369
30						---	318	---			305	370
31						---	---	---			312	---

07124200 PURGATOIRE RIVER AT MADRID, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1											---	---
2											---	---
3											---	---
4											---	---
5											---	---
6											---	---
7											---	---
8											---	---
9											---	---
10											---	---
11											---	---
12											---	---
13											---	---
14											---	---
15											---	---
16											---	---
17											---	---
18											---	---
19											---	---
20											---	---
21											---	---
22											---	---
23											---	---
24											---	---
25											---	---
26											---	---
27											---	---
28											15.0	5.0
29											14.5	1.5
30											1.0	1.0
31											---	---

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	17.0	6.5					27.5	13.0	24.5	12.5
2	---	---	19.5	7.5					26.0	17.0	23.5	13.5
3	---	---	8.5	5.5					29.0	16.0	27.0	13.0
4	10.0	4.0	21.0	4.5					29.0	16.5	25.0	13.5
5	19.5	.5	23.0	6.0					29.0	15.0	25.0	13.0
6	19.5	2.0	20.5	8.0					30.5	16.5	26.5	13.0
7	21.0	4.0	21.0	6.5					29.5	16.0	25.5	13.0
8	20.5	4.5	19.0	6.0					29.0	16.5	26.0	13.0
9	12.0	4.5	11.5	5.0					24.0	16.0	28.0	13.0
10	13.0	4.0	8.0	3.5					20.5	17.0	26.5	13.0
11	11.0	4.0	18.5	1.0					25.5	12.0	24.0	14.0
12	8.5	2.5	19.0	6.5					23.5	12.0	17.0	13.0
13	19.5	.0	23.5	5.0					23.5	13.5	22.5	11.5
14	---	---	23.0	6.5					18.0	15.0	12.5	9.0
15	---	---	19.5	7.5					20.0	14.5	20.5	7.0
16	---	---	22.5	8.0					19.5	14.5	21.5	8.0
17	15.5	10.0	16.5	8.5					18.0	14.5	20.0	9.5
18	22.0	8.0	23.5	7.0					17.5	13.0	21.5	8.5
19	21.0	6.5	20.5	9.0					20.5	10.5	23.0	9.0
20	21.0	6.5	14.0	8.5					20.0	11.0	21.5	9.5
21	20.5	6.0	18.5	7.5					22.5	10.5	21.0	12.5
22	18.5	6.5	19.0	9.0					23.0	12.5	22.0	9.0
23	23.0	7.0	19.5	4.0					21.5	15.0	24.5	9.0
24	20.5	7.5	17.0	4.5					22.5	14.0	23.0	9.5
25	12.5	7.0	15.0	9.0					22.0	10.5	21.5	10.0
26	18.0	7.0	17.0	10.0					21.0	13.0	21.0	9.0
27	19.5	6.5	17.5	7.5					23.5	12.5	21.5	9.0
28	19.5	6.5	16.0	9.0					25.5	14.5	23.5	8.5
29	14.5	5.5	16.0	10.0					24.0	13.0	23.5	9.0
30	16.0	5.5	13.0	10.0					22.5	12.5	23.0	8.5
31	---	---	---	---					24.5	13.0	---	---

07124210 MULLIGAN CANYON NEAR BONCARBO, CO

LOCATION.--Lat 37°12'36", long 104°39'38", in SW¼SE¼ sec.34, T.32 S., R.65 W., Las Animas County, Hydrologic Unit 11020010, on left bank 400 ft (122 m) downstream from West Mulligan Canyon, 1.1 mi (1.8 km) from mouth at Reilly Canyon and 2.0 mi (3.2 km) east of Boncarbo.

DRAINAGE AREA.--4.53 mi² (11.73 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1978 to September 1979 (seasonal record only).

GAGE.--Water-stage recorder and supercritical-flow flume. Altitude of gage is 6,870 ft (2,094 m) from topographic map.

REMARKS.--Records good. Flow partially regulated by channel dam upstream since December 1978. Recording rain gage and other weather monitoring gages at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 122 ft³/s (3.46 m³/s) July 31, 1979, gage height, 4.88 ft (1.487 m); no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 122 ft³/s (3.46 m³/s) July 31, gage height, 4.88 ft (1.487 m); no flow most of time.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									---	.00	.00	.00
2									---	.00	.12	.00
3									---	.00	.01	.00
4									---	.00	.00	.00
5									---	.00	.00	.00
6									---	.00	.00	.00
7									---	.00	.00	.00
8									---	.00	.00	.00
9									.00	.03	.00	.00
10									.00	.01	.00	.00
11									.00	.18	.00	.00
12									.00	.00	.00	.00
13									.00	.00	.00	.00
14									.00	.00	.00	.00
15									.00	.00	.00	.00
16									.00	.01	.00	.00
17									.00	.00	.00	.00
18									.00	.00	.00	.00
19									.00	.00	.00	.00
20									.00	.00	.00	.00
21									.00	.00	.00	.00
22									.00	.00	.00	.00
23									.00	.00	.00	.00
24									.00	.00	.00	.00
25									.00	.00	1.9	.00
26									.00	.00	.00	.00
27									.20	.00	.00	.00
28									.35	.00	.00	.00
29									.00	.00	.00	.00
30									.00	.02	.00	.00
31									---	.02	.00	---
TOTAL									---	.27	2.03	.00
MEAN									---	.009	.065	.000
MAX									---	.18	1.9	.00
MIN									---	.00	.00	.00
AC-FT									---	.5	4.0	.00

07124210 MULLIGAN CANYON NEAR BONCARBO, CO--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						.00	.00	.00	1.0	.00	.04	.00
2						.00	.00	.00	.00	.00	.00	.00
3						.00	.00	.00	.22	.00	.00	.00
4						.00	.00	.00	.00	.00	.00	.00
5						.00	.00	.00	.00	.00	.00	.00
6						.00	.00	.00	.00	.00	.00	.00
7						.00	.00	.00	1.1	.00	.00	.00
8						.00	.00	.00	.09	.00	.00	.00
9						.00	.00	.00	.00	.00	.04	.00
10						.00	.00	.00	.00	.00	.00	.00
11						.00	.00	.00	.00	.00	.00	.00
12						.00	.00	.00	.00	.00	.00	.00
13						.00	.00	.00	.00	.00	2.0	.00
14						.00	.00	.00	.00	.60	3.6	.66
15						.00	.00	.00	.00	.06	.93	.00
16						.00	.00	.00	.00	.00	.00	.00
17						.00	.00	.00	.00	.07	.27	.00
18						.00	.00	.00	.00	.00	2.8	.00
19						.00	.00	.00	.00	.00	.00	.00
20						.00	.00	.00	.00	.00	.00	.00
21						.00	.00	.00	.00	.01	.00	.00
22						.00	.00	.00	.00	.17	.01	.00
23						.00	.00	.00	.42	.00	3.4	.00
24						.00	.00	.00	.00	.00	.00	.00
25						.00	.00	.00	.00	.00	.75	.00
26						.00	.00	.00	.00	.00	.00	.00
27						.00	.00	.00	.00	.00	.00	.00
28						.00	.00	.00	.00	.00	.00	.00
29						.00	.00	.00	.00	.32	.00	.00
30						.00	.00	.03	.00	.00	.00	.00
31						.00	---	.04	---	3.9	.00	---
TOTAL						.00	.00	.07	2.83	5.13	13.84	.66
MEAN						.000	.000	.002	.094	.17	.45	.022
MAX						.00	.00	.04	1.1	3.9	3.6	.66
MIN						.00	.00	.00	.00	.00	.00	.00
AC-FT						.00	.00	.1	5.6	10	27	1.3

07124210 MULLIGAN CANYON NEAR BONCARBO, CO--Continued

WATER-QUALITY RECORDS

PREIOD OF RECORD.--June 1978 to September 1979 (seasonal record only).

PERIOD OF DAILY RECORD.--
SUSPENDED SEDIMENT DISCHARGE: October 1978 to September 1979.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily, 37,000 mg/L estimated July 31, 1979; minimum daily, no flow many days during the year.
SEDIMENT LOADS: Maximum daily, 390 tons (354 t) July 31, 1979; minimum daily, no flow many days during the year.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily, 37,000 mg/L estimated July 31; minimum daily, no flow many days during the year.
SEDIMENT LOADS: Maximum daily, 390 tons (354 t) July 31; minimum daily, no flow many days during the year.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	.00			.00		---	1.0	2010	5.4
2	.00			.00		---	.00	---	.00
3	.00			.00		---	.22	2100	1.2
4	.00			.00		---	.00	---	.00
5	.00			.00		---	.00	---	.00
6	.00			.00		---	.00	---	.00
7	.00			.00		---	1.1	2460	7.3
8	.00			.00		---	.09	740	.18
9	.00			.00		---	.00	---	---
10	.00			.00		---	.00	---	---
11	.00			.00		---	.00	---	---
12	.00			.00		---	.00	---	---
13	.00			.00		---	.00	---	---
14	.00			.00		---	.00	---	---
15	.00			.00		---	.00	---	---
16	.00			.00		---	.00	---	---
17	.00			.00		---	.00	---	---
18	.00			.00		---	.00	---	---
19	.00			.00		---	.00	---	---
20	.00			.00		---	.00	---	---
21	.00			.00		---	.00	---	---
22	.00			.00		---	.00	---	---
23	.00			.00		---	.42	2210	2.5
24	.00			.00		---	.00	---	---
25	.00			.00		---	.00	---	---
26	.00			.00		---	.00	---	---
27	.00			.00		---	.00	---	---
28	.00			.00		---	.00	---	---
29	.00			.00		---	.00	---	---
30	.00			.03		.40	.00	---	---
31	---			.04		.50	---	---	---
TOTAL	0.00			0.07		0.90	2.83	---	16.58

07124210 MULLIGAN CANYON NEAR BONCARBO, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	.00	---	---	.04	---	.40	.00		---
2	.00	---	---	.00	---	.00	.00		---
3	.00	---	---	.00	---	.00	.00		---
4	.00	---	---	.00	---	.00	.00		---
5	.00	---	---	.00	---	.00	.00		---
6	.00	---	---	.00	---	.00	.00		---
7	.00	---	---	.00	---	.00	.00		---
8	.00	---	---	.00	---	.00	.00		---
9	.00	---	---	.04	---	.50	.00		---
10	.00	---	---	.00	---	.00	.00		---
11	.00	---	---	.00	---	.00	.00		---
12	.00	---	---	.00	---	.00	.00		---
13	.00	---	---	2.0	1370	7.4	.00		---
14	.60	1470	2.4	3.6	8080	79	.66		20
15	.06	---	2.5	.93	---	20	.00		---
16	.00	---	.00	.00	---	.00	.00		---
17	.07	628	.12	.27	---	7.5	.00		---
18	.00	---	.00	2.8	3750	28	.00		---
19	.00	---	.00	.00	---	.00	.00		---
20	.00	---	.00	.00	---	.00	.00		---
21	.01	---	.60	.00	---	.00	.00		---
22	.17	2120	.97	.01	---	.10	.00		---
23	.00	---	.00	3.4	4620	42	.00		---
24	.00	---	.00	.00	---	.00	.00		---
25	.00	---	.00	.75	---	30	.00		---
26	.00	---	.00	.00	---	.00	.00		---
27	.00	---	.00	.00	---	.00	.00		---
28	.00	---	.00	.00	---	.00	.00		---
29	.32	---	20	.00	---	.00	.00		---
30	.00	---	.00	.00	---	.00	.00		---
31	3.9	---	390	.00	---	---	---		
TOTAL	5.13	---	416.59	13.84	---	214.90	0.66		20
YEAR	22.53		668.97						

07124220 REILLY CANYON AT COKEDALE, CO

LOCATION.--Lat 37°08'43", long 104°37'07", in SW¼NE¼ sec.25, T.33 S., R.65 W., Las Animas County, Hydrologic Unit 11020010, on right bank 8 ft (2.4 m) upstream from county bridge, 0.1 mi (0.16 km) east of Cokedale, and 1.9 mi (3.1 km) upstream from mouth.

DRAINAGE AREA.--35.1 mi² (90.9 km).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,300 ft (1,920 m), from topographic map.

REMARKS.-Records good except those for period of no gage-height record June 27-29, 1978, and those for periods of partial gage height record in July and August, 1979, which are fair. No diversions above station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,510 ft³/s (71.1 m³/s) July 31, 1979, gage height, 11.30 ft (3.444 m), result of slope-area measurement of peak flow; no flow many days in 1979.

EXTREMES FOR 1978.--Peak discharges above base of 500 ft³/s (14 m³/s) and maximum (*), for period June to September:

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
June 27	1400	*1,150	32.6	7.84	2.390	July 20	1330	636	18.0	6.45	1.966

Minimum daily discharge, 0.02 ft³/s (0.001 m³/s) Sept. 7-16.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft³/s (14 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
June 1	1745	1,180	33.4	7.92	2.414	Aug. 14	0100	554	15.7	6.23	1.899
July 1	1900	702	19.9	6.63	2.021	Sept. 13	1820	532	15.1	6.17	1.881
July 31	1930	*2,510	71.1	11.30	3.444						

No flow Jan. 8-10, 24, 27-31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									---	.31	.51	.04
2									---	.04	.40	.03
3									---	.04	.26	.03
4									---	.04	.26	.03
5									---	.04	.19	.03
6									---	.04	.16	.03
7									---	.04	.36	.02
8									---	.04	.36	.02
9									---	.06	.19	.02
10									---	22	.31	.02
11									---	2.2	.26	.02
12									---	.22	8.9	.02
13									---	.08	.16	.02
14									---	.06	.06	.02
15									.04	.04	.06	.02
16									.04	.31	.06	.02
17									.16	.13	.04	.03
18									.06	.06	.04	.03
19									.03	.04	.04	.03
20									.03	25	.04	.03
21									.03	.16	.04	.03
22									.04	.87	.06	.03
23									.04	.36	.06	.03
24									.04	.22	.06	.03
25									.04	.19	16	.03
26									.04	.19	.70	.03
27									99	.16	.04	.03
28									.54	.16	.03	.03
29									.26	.16	.03	.03
30									5.5	.19	.03	.03
31									---	.19	.04	---
TOTAL									---	53.64	29.75	.81
MEAN									---	1.73	.96	.027
MAX									---	25	16	.04
MIN									---	.04	.03	.02
AC-FT									---	106	59	1.6

07124220 REILLY CANYON AT COKEDALE, CO--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	.03	.04	.01	.01	.06	.04	.03	58	26	9.4	.04
2	.03	.03	.06	.01	.01	.06	.04	.03	1.3	.31	.19	.04
3	.03	.03	.04	.01	.01	.03	.06	.03	1.8	.70	.06	.04
4	.02	.03	.04	.01	.02	.03	.04	.03	.19	.06	.04	.04
5	.02	.03	.04	.01	.02	.03	.04	.03	.06	.04	.04	.04
6	.02	.03	.04	.01	.02	.03	.04	.03	.03	.04	.04	.04
7	.02	.04	.04	.01	.03	.03	.04	.03	2.0	.03	.04	.04
8	.02	.04	.04	.00	.04	.03	.04	.04	1.4	.03	.04	.04
9	.02	.04	.04	.00	.04	.03	.04	.04	1.2	.02	11	.04
10	.02	.02	.03	.00	.04	.03	.04	.04	.10	.02	3.5	.04
11	.02	.02	.03	.01	.04	.03	.03	.04	.04	.02	.26	.04
12	.02	.02	.02	.02	.04	.03	.03	.04	.02	.01	.08	.04
13	.02	.03	.03	.01	.04	.03	.03	.03	.02	.01	.03	32
14	.02	.04	.03	.01	.04	.03	.03	.03	.02	.01	97	19
15	.02	.04	.03	.02	.03	.03	.03	.03	.02	1.5	15	.48
16	.02	.04	.03	.02	.02	.04	.03	.03	.02	.10	.26	.16
17	.02	.04	.03	.02	.03	.04	.03	.03	.02	20	1.6	.10
18	.02	.04	.03	.02	.03	.04	.02	.03	.02	20	26	.08
19	.02	.04	.02	.02	.03	.04	.02	.04	.02	.19	.54	.06
20	.02	.04	.02	.02	.03	.04	.02	.06	.02	.04	.19	.06
21	.03	.04	.03	.02	.03	.04	.02	.06	.02	.03	.13	.19
22	.03	.04	.03	.02	.03	.03	.02	.04	.02	.11	.08	.10
23	.03	.04	.04	.01	.03	.03	.02	.04	2.0	.20	10	.08
24	.03	.04	.03	.00	.03	.03	.02	6.7	.73	7.6	.42	.06
25	.03	.04	.04	.01	.06	.03	.02	.90	.03	.22	1.2	.06
26	.03	.04	.03	.01	.06	.03	.02	7.6	.02	.04	1.9	.06
27	.02	.04	.04	.00	.06	.03	.02	.06	.02	.03	.16	.08
28	.02	.04	.03	.00	.06	.03	.02	.04	.02	.03	.08	.06
29	.02	.04	.03	.00	---	.03	.03	.04	.02	1.0	.06	.04
30	.02	.04	.02	.00	---	.03	.03	8.2	.01	.13	.06	.03
31	.03	---	.02	.00	---	.03	---	.42	---	146	.04	---
TOTAL	.72	1.07	1.02	.31	.93	1.05	.91	24.79	69.19	224.52	179.44	53.18
MEAN	.023	.036	.033	.010	.033	.034	.030	.80	2.31	7.24	5.79	1.77
MAX	.03	.04	.06	.02	.06	.06	.06	8.2	58	146	97	32
MIN	.02	.02	.02	.00	.01	.03	.02	.03	.01	.01	.03	.03
AC-FT	1.4	2.1	2.0	.6	1.8	2.1	1.8	49	137	445	356	105

WTR YR 1979 TOTAL 557.13 MEAN 1.53 MAX 146 MIN .00 AC-FT 1110

07124220 REILLY CANYON AT COKEDALE, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 1978 to current year.

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO
OCT 26...	1015	.02	1150	8.0	9.5	270	5	56	31	160	4.3
AUG 14...	1023	18	260	8.0	15.0	--	--	--	--	--	--

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)
OCT 26...	4.6	320	0	260	310	15	.6	8.7	746	1.01
AUG 14...	--	110	--	90	--	--	--	--	--	--

DATE	SOLIDS, DISSOLVED (TONS PER DAY)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	BORON, DISSOLVED (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)
OCT 26...	.04	.58	.00	70	0	1	0	50	2	1
AUG 14...	--	--	--	--	--	4	--	--	1	--

DATE	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)
OCT 26...	4	0	0	0	6	1	40	40	.0	.0
AUG 14...	190	--	100000	--	82	--	2200	--	1.1	--

DATE	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)
OCT 26...	0	2	3	1	2	3	20	0	3.4	3.0
AUG 14...	0	--	70	--	5	--	400	--	--	--

07124300 LONG CANYON CREEK NEAR MADRID, CO

LOCATION.--Lat 37°06'52", long 104°36'17", in SE¼NW¼ sec.6, T.34 S., R.64 W., Las Animas County, Hydrologic Unit 11020010, on left bank 700 ft (210 m) upstream from private bridge, 1.4 mi (2.3 km) upstream from Uso Canyon, 2.2 mi (3.5 km) southeast of Madrid, and 2.3 mi (3.7 km) upstream from mouth.

DRAINAGE AREA.--100 mi² (260 km²), approximately.

PERIOD OF RECORD.--March 1972 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 6,259.09 ft (1,907.771 m), National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. No diversion above station. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--7 years, 2.02 ft³/s (0.057 m³/s), 1,460 acre-ft/yr (1.80 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,140 ft³/s (70.2 m³/s) July 17, 1979, gage height, 7.37 ft (2.097 m), from floodmarks, from rating curve extended above 1,000 ft³/s (28 m³/s), on basis of slope-area measurement of peak flow; no flow Feb. 22 to May 22, 1979.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 100 ft³/s (2.8 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
May 30	2030	213	6.03	3.33	1.015	Aug. 14	1830	234	6.63	3.41	1.039
July 17	2300	*3,140	88.9	a7.37	2.246	Aug. 18	1530	664	18.8	4.34	1.323
July 24	2315	310	8.78	3.50	1.067	Sept. 13	1830	426	12.1	3.89	1.186
July 31	1930	2,100	59.5	a6.40	1.951						

a From floodmark.

No flow Feb. 22 to May 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.02	.02	.02	.03	.00	.00	.00	.00	.45	.13	4.1	.06
2	.02	.02	.02	.03	.00	.00	.00	.00	.13	.13	.19	.06
3	.02	.03	.03	.03	.00	.00	.00	.00	.03	.13	.06	.06
4	.02	.03	.03	.03	.01	.00	.00	.00	.03	.13	.03	.06
5	.01	.03	.03	.02	.01	.00	.00	.00	.03	3.9	.06	.03
6	.01	.03	.03	.01	.01	.00	.00	.00	.02	.53	.03	.02
7	.01	.03	.03	.01	.01	.00	.00	.00	.02	.45	.02	.06
8	.01	.03	.03	.01	.01	.00	.00	.00	.03	.37	.02	.06
9	.01	.02	.02	.01	.01	.00	.00	.00	1.6	.24	.01	.06
10	.01	.02	.02	.01	.01	.00	.00	.00	.13	.24	.03	.06
11	.01	.02	.02	.01	.01	.00	.00	.00	.04	.24	.02	.06
12	.01	.02	.02	.01	.01	.00	.00	.00	.03	.13	.02	.06
13	.01	.02	.02	.01	.02	.00	.00	.00	.03	.04	.02	24
14	.01	.02	.02	.01	.02	.00	.00	.00	.03	.04	64	5.5
15	.01	.02	.02	.01	.02	.00	.00	.00	.03	.38	30	.30
16	.03	.02	.02	.01	.02	.00	.00	.00	.03	.24	1.8	.19
17	.02	.02	.02	.01	.02	.00	.00	.00	.04	234	.19	.19
18	.02	.02	.02	.01	.01	.00	.00	.00	.04	50	65	.19
19	.02	.02	.02	.01	.01	.00	.00	.00	.04	.21	1.5	.11
20	.02	.01	.02	.01	.01	.00	.00	.00	.13	.15	.03	.11
21	.02	.01	.03	.01	.01	.00	.00	.00	.13	.19	.03	.11
22	.03	.02	.04	.01	.00	.00	.00	.00	.04	.27	.06	.11
23	.02	.02	.04	.01	.00	.00	.00	2.5	7.2	.17	.19	.11
24	.02	.02	.04	.01	.00	.00	.00	1.2	14	9.9	.19	.11
25	.02	.02	.04	.01	.00	.00	.00	.40	.75	7.1	.11	.11
26	.02	.02	.05	.01	.00	.00	.00	5.6	.24	1.5	.11	.10
27	.01	.02	.03	.01	.00	.00	.00	.03	.13	1.1	.11	.06
28	.02	.02	.03	.00	.00	.00	.00	.02	.13	.33	.19	.06
29	.02	.02	.03	.00	---	.00	.00	.02	.13	4.2	5.5	.06
30	.02	.02	.03	.00	---	.00	.00	17	.13	.45	2.6	.06
31	.02	---	.03	.00	---	.00	---	3.4	---	254	.11	---
TOTAL	.52	.64	.85	.36	.23	.00	.00	30.17	25.79	570.89	176.33	32.13
MEAN	.017	.021	.027	.012	.008	.000	.000	.97	.86	18.4	5.69	1.07
MAX	.03	.03	.05	.03	.02	.00	.00	17	14	254	65	24
MIN	.01	.01	.02	.00	.00	.00	.00	.00	.02	.04	.01	.02
AC-FT	1.0	1.3	1.7	.7	.5	.00	.00	60	51	1130	350	64

CAL YR 1978 TOTAL 253.73 MEAN .70 MAX 74 MIN .01 AC-FT 503
WTR YR 1979 TOTAL 837.91 MEAN 2.30 MAX 254 MIN .00 AC-FT 1660

07124350 CARPIOS CANYON NEAR JANSEN, CO

LOCATION.--Lat 37°09'13", long 104°34'02", Las Animas County, Hydrologic Unit 11020010, on right bank, 0.3 mi (0.5 km) upstream from State Highway 12, 0.6 mi (1.0 km) upstream from mouth at Trinidad Lake, and 1.8 mi (2.9 km) west of Jansen.

DRAINAGE AREA.--4.57 mi² (11.84 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1978 to September 1979 (seasonal record only).

GAGE.--Water-stage recorder and supercritical-flow flume. Altitude of gage is 6,260 ft (1,908 m) from topographic map.

REMARKS.--Records good except those above 100 ft³/s (2.8 m³/s) which are fair. Recording rain gage upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 870 ft³/s (24.6 m³/s) June 27, 1978, gage height, 8.10 ft (2.469 m) from floodmark; no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 608 ft³/s (17.2 m³/s) at 1900 July 31, gage height, 7.45 ft (2.271 m); no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							.00	.00	.56	.13	.02	.00
2							.00	.00	.06	.00	.00	.00
3							.00	.00	.39	.00	.00	.00
4							.00	.00	.00	.00	.00	.00
5							.00	.00	.00	.00	.00	.00
6							.00	.00	.00	.00	.00	.00
7							.00	.00	.00	.00	.00	.00
8							.00	.00	.00	.00	.00	.00
9							.00	.00	.05	.00	.00	.00
10							.00	.00	.00	.00	.00	.00
11							.00	.00	.00	.00	.00	.00
12							.00	.00	.00	.00	.00	.00
13							.00	.00	.00	.00	.00	6.2
14							.00	.00	.00	.00	18	3.6
15							.00	.00	.00	.00	4.9	.00
16							.00	.00	.00	.00	.00	.00
17							.00	.00	.00	.78	.00	.00
18							.00	.00	.00	.05	.00	.00
19							.00	.00	.00	.00	.00	.00
20							.00	.00	.00	.00	.00	.00
21							.00	.00	.00	.00	.00	.00
22							.00	.00	.00	.00	.00	.00
23							.00	.00	.00	.00	.00	.00
24							.00	.67	.00	.00	.00	.00
25							.00	.39	.00	.00	.00	.00
26							.00	1.1	.00	.00	.00	.00
27							.00	.00	.00	.00	.00	.00
28							.00	.00	.00	.00	.00	.00
29							.00	.15	.00	.00	.00	.00
30							.00	2.4	.00	.00	.00	.00
31							---	.11	---	10	.00	---
TOTAL							.00	4.82	1.06	10.96	22.92	9.80
MEAN							.000	.16	.035	.35	.74	.33
MAX							.00	2.4	.56	10	18	6.2
MIN							.00	.00	.00	.00	.00	.00
AC-FT							.00	9.6	2.1	22	45	19

07124350 CARPIOS CANYON NEAR JANSEN, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 1978 to September 1979 (seasonal record only).

PERIOD OF DAILY RECORD.--
SUSPENDED SEDIMENT DISCHARGE: October 1978 to September 1979.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily, 13,500 mg/L Aug. 14, 1979; minimum daily, no flow many days during the year.
SEDIMENT LOADS: Maximum daily, 1,320 tons (1,200 t) July 31, 1979; minimum daily, no flow many days during the year.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily, 13,500 mg/L Aug. 14; minimum daily, no flow many days during the year.
SEDIMENT LOADS: Maximum daily, 1,320 tons (1,200 t) July 31; minimum daily, no flow many days during the year.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	.00		.00	.00		.00	.56		25
2	.00		.00	.00		.00	.06		.10
3	.00		.00	.00		.00	.39		25
4	.00		.00	.00		.00	.00		.00
5	.00		.00	.00		.00	.00		.00
6	.00		.00	.00		.00	.00		.00
7	.00		.00	.00		.00	.00		.00
8	.00		.00	.00		.00	.00		.00
9	.00		.00	.00		.00	.05		2.0
10	.00		.00	.00		.00	.00		.00
11	.00		.00	.00		.00	.00		.00
12	.00		.00	.00		.00	.00		.00
13	.00		.00	.00		.00	.00		.00
14	.00		.00	.00		.00	.00		.00
15	.00		.00	.00		.00	.00		.00
16	.00		.00	.00		.00	.00		.00
17	.00		.00	.00		.00	.00		.00
18	.00		.00	.00		.00	.00		.00
19	.00		.00	.00		.00	.00		.00
20	.00		.00	.00		.00	.00		.00
21	.00		.00	.00		.00	.00		.00
22	.00		.00	.00		.00	.00		.00
23	.00		.00	.00		.00	.00		.00
24	.00		.00	.67		35	.00		.00
25	.00		.00	.39		20	.00		.00
26	.00		.00	1.1		55	.00		.00
27	.00		.00	.00		.00	.00		.00
28	.00		.00	.00		.00	.00		.00
29	.00		.00	.15		5.5	.00		.00
30	.00		.00	2.4		190	.00		.00
31	---			.11		.50	---		
TOTAL	0.00		0.00	4.82		306.00	1.06		52.10

07124350 CARPOIS CANYON NEAR JANSEN, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	.13	614	3.1	.02	---	.10	.00	---	.00
2	.00	---	.00	.00	---	.00	.00	---	.00
3	.00	---	.00	.00	---	.00	.00	---	.00
4	.00	---	.00	.00	---	.00	.00	---	.00
5	.00	---	.00	.00	---	.00	.00	---	.00
6	.00	---	.00	.00	---	.00	.00	---	.00
7	.00	---	.00	.00	---	.00	.00	---	.00
8	.00	---	.00	.00	---	.00	.00	---	.00
9	.00	---	.00	.00	---	.00	.00	---	.00
10	.00	---	.00	.00	---	.00	.00	---	.00
11	.00	---	.00	.00	---	.00	.00	---	.00
12	.00	---	.00	.00	---	.00	.00	---	.00
13	.00	---	.00	.00	---	.00	.00	---	.00
14	.00	---	.00	.00	---	.00	6.2	6840	516
15	.00	---	.00	18	13500	1140	3.6	4250	144
16	.00	---	.00	4.9	---	180	.00	---	.00
17	.78	1290	37	.00	---	.00	.00	---	.00
18	.05	---	.20	.00	---	.00	.00	---	.00
19	.00	---	.00	.00	---	.00	.00	---	.00
20	.00	---	.00	.00	---	.00	.00	---	.00
21	.00	---	.00	.00	---	.00	.00	---	.00
22	.00	---	.00	.00	---	.00	.00	---	.00
23	.00	---	.00	.00	---	.00	.00	---	.00
24	.00	---	.00	.00	---	.00	.00	---	.00
25	.00	---	.00	.00	---	.00	.00	---	.00
26	.00	---	.00	.00	---	.00	.00	---	.00
27	.00	---	.00	.00	---	.00	.00	---	.00
28	.00	---	.00	.00	---	.00	.00	---	.00
29	.00	---	.00	.00	---	.00	.00	---	.00
30	.00	---	.00	.00	---	.00	.00	---	.00
31	10	4280	1320	.00	---	.00	---	---	---
TOTAL	10.96	---	1360.30	22.92	---	1320.10	9.80	---	660.00
YEAR	49.56		3698.50						

07124400 TRINIDAD LAKE NEAR TRINIDAD, CO

LOCATION.--Lat 37°08'27", long 104°33'03", in NE¼SW¼ sec.27, T.33 S., R.64 W., Las Animas County, Hydrologic Unit 11020010, in valve house near center of dam on Purgatoire River and 3.2 mi (5.1 km) southwest of courthouse in Trinidad.

DRAINAGE AREA.--672 mi² (1,740 km²).

PERIOD OF RECORD.--August 1977 to current year.

REVISED RECORDS.--1978: 1977(M).

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army, Corps of Engineers).

REMARKS.--Reservoir is formed by a rock and earthfill dam completed in 1977. Storage began Aug. 19, 1977. Total capacity, 158,500 acre-ft (195 hm³), at elevation 6,276.0 ft (1,912.92 m). Elevation of high crest of spillway, 6,258 ft (1,907.44 m), with capacity of 117,400 acre-ft (145 hm³). Elevation of notch crest in spillway is 6,243.0 ft (1,902.87 m), capacity, 89,170 acre-ft (110 hm³). Permanent pool is 4,500 acre-ft (5.55 hm³) at elevation 6,143.0 ft (1,872.39 m). Elevation of outlet invert is 6,095.0 ft (1,857.76 m). Reservoir is used for flood control, storage for irrigation, and to help control sedimentation. Figures given are total contents.

COOPERATION.--Capacity tables were furnished by U.S. Army, Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily contents, 18,460 acre-ft (22.8 hm³) Sept. 4, 1979, elevation, 6,179.59 ft (1,883.539 m); no contents prior to Aug. 19, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 18,460 acre-ft (22.8 hm³) Sept. 4, elevation, 6,179.59 ft (1,872.216 m); minimum daily contents, 1,690 acre-ft (2.08 hm³) May 14, 15.

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2100	1840	1820	1790	1810	1810	1780	1760	3440	11900	13600	18260
2	2100	1840	1820	1790	1810	1810	1780	1750	3850	11950	13520	18360
3	2100	1840	1800	1800	1810	1810	1790	1740	4220	12090	13370	18440
4	2100	1850	1800	1810	1810	1800	1780	1750	4550	12150	13180	18460
5	2100	1850	1810	1820	1810	1800	1780	1740	4930	12190	13000	18440
6	2100	1840	1810	1830	1810	1820	1780	1720	5310	12220	12800	18420
7	2090	1830	1810	1830	1800	1840	1770	1710	5750	12250	12690	18320
8	2040	1830	1810	1830	1810	1830	1760	1720	6290	12260	12420	18140
9	1970	1830	1810	1820	1810	1820	1760	1740	6890	12260	12280	17970
10	1970	1820	1810	1810	1810	1810	1770	1760	7380	12190	12130	17750
11	1970	1820	1820	1800	1810	1810	1770	1730	7840	12080	12120	17500
12	1950	1830	1830	1810	1810	1800	1770	1720	8300	11920	12130	17240
13	1920	1830	1840	1810	1820	1800	1770	1700	8760	11820	12040	17460
14	1890	1820	1840	1820	1840	1800	1760	1690	9280	11900	13800	17580
15	1870	1820	1840	1820	1820	1800	1760	1690	9840	11980	15240	17610
16	1850	1820	1830	1820	1810	1800	1750	1700	10450	11930	15760	17920
17	1850	1820	1820	1820	1800	1800	1750	1720	11030	12500	16100	17990
18	1840	1830	1830	1820	1810	1800	1760	1750	11240	13210	16610	18070
19	1840	1830	1850	1820	1820	1800	1750	1740	11180	13300	16940	18120
20	1850	1830	1820	1810	1830	1800	1760	1750	11070	13190	16910	18140
21	1850	1830	1810	1800	1830	1810	1770	1730	11020	13090	17130	18140
22	1870	1830	1800	1810	1820	1810	1780	1700	11030	12970	17210	18170
23	1870	1820	1800	1810	1800	1800	1780	2000	11110	12860	17240	18190
24	1850	1820	1800	1810	1800	1800	1770	2050	11320	12790	17240	18200
25	1840	1820	1810	1810	1810	1800	1770	1920	11510	12770	17400	18200
26	1850	1810	1810	1820	1820	1790	1770	1840	11600	12650	17510	18230
27	1860	1810	1820	1820	1820	1800	1750	1810	11690	12550	17690	18270
28	1860	1810	1830	1820	1820	1800	1740	1760	11760	12400	17820	18310
29	1860	1810	1820	1820	---	1790	1750	1740	11800	12320	17940	18330
30	1850	1820	1800	1820	---	1780	1760	2270	11830	12140	18030	18330
31	1840	---	1800	1810	---	1780	---	2880	---	13500	18170	---
MAX	2100	1850	1850	1830	1840	1840	1790	2880	11830	13500	18170	18460
MIN	1840	1810	1800	1790	1800	1780	1740	1690	3440	11820	12030	17240

WTR YR 1979 MAX 18460 MIN 1690

07124410 PURGATOIRE RIVER BELOW TRINIDAD LAKE, CO

LOCATION.--Lat 37°08'37", long 104°32'49", in SW¼NE¼ sec.27, T.33 S., R.64 W., Las Animas County, Hydrologic Unit 11020010, on left bank at toe of dam and 3.0 mi (4.8 km) southwest of courthouse in Trinidad.

DRAINAGE AREA.--672 mi^2 (1,740 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1976 to current year.

GAGE.--Water-stage recorder with concrete control. Datum of gage is 6,073.64 ft (1,851.245 m), National Geodetic Vertical Datum of 1929 (levels by U.S. Army, Corps of Engineers). Auxiliary gage is water-stage recorder in shelter about 1,000 ft (305 m) downstream.

REMARKS.--Records good. Natural flow of stream affected by diversions above station for irrigation of about 6,000 acres (24 km^2). Flow since Aug. 19, 1977, completely regulated by Trinidad Lake (station 07124400) immediately upstream. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 403 ft^3/s (11.4 m^3/s) Aug. 20, 1979, gage height, 6.80 ft (2.073 m); no flow Aug. 20-24, 1977, May 31, Aug. 15-19, 27, 30, Sept. 1, 2, Sept. 15-18, 27, 28, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 403 ft^3/s (11.4 m^3/s) at 1830 Aug. 20, gage height, 6.80 ft (2.073 m); no flow May 31, Aug. 15-19, 27, 30, Sept. 2, Sept. 15-18, 27, 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.5	15	12	7.1	11	15	9.5	29	5.1	241	134	.00
2	7.9	14	13	3.0	11	12	9.5	29	12	212	123	.00
3	7.1	14	14	3.0	11	11	12	26	12	192	149	.01
4	7.1	15	8.9	3.0	10	11	12	27	19	192	149	31
5	5.0	18	6.5	4.4	10	9.4	12	30	22	192	147	47
6	15	20	6.3	5.9	11	4.0	12	28	19	178	146	47
7	36	21	6.3	9.0	10	4.5	12	23	27	173	146	98
8	35	18	7.9	12	8.4	16	11	21	29	174	145	123
9	16	15	8.3	7.1	9.1	18	10	23	13	171	148	123
10	8.8	14	8.0	13	11	15	10	42	13	199	148	144
11	9.8	14	8.0	11	11	13	10	46	13	211	147	157
12	14	14	8.0	10	14	13	12	40	18	204	148	157
13	24	13	10	10	15	11	12	32	18	167	147	156
14	21	18	14	10	17	10	12	23	10	144	71	99
15	21	17	18	10	22	10	12	18	7.2	158	.00	.00
16	21	14	18	12	20	11	12	18	7.3	224	.00	.00
17	10	12	18	13	16	11	12	18	7.7	173	.00	.00
18	10	12	18	14	13	10	12	38	182	177	.00	.00
19	8.5	14	22	17	12	8.5	14	61	290	178	.00	4.4
20	8.5	17	26	18	14	6.3	16	76	284	175	130	16
21	9.5	16	18	11	16	9.2	16	133	204	175	.54	19
22	11	17	13	8.5	16	13	16	123	166	175	55	19
23	22	18	9.4	8.5	14	13	22	113	165	172	88	19
24	29	17	8.5	8.5	9.3	14	26	228	164	169	88	20
25	15	17	8.5	8.5	8.0	12	27	337	161	169	73	21
26	12	17	8.5	8.5	9.2	9.6	30	360	175	169	26	6.9
27	12	14	8.5	9.9	12	8.5	32	313	184	169	.00	.00
28	15	13	11	11	14	8.5	30	299	204	168	2.7	.00
29	13	11	11	10	---	11	23	296	219	167	1.9	12
30	17	10	11	11	---	11	25	133	234	167	.00	20
31	18	---	9.8	11	---	9.8	---	.00	---	146	.00	---
TOTAL	468.7	459	368.4	298.9	355.0	339.3	481.0	2983.00	2884.3	5581	2413.14	1339.31
MEAN	15.1	15.3	11.9	9.64	12.7	10.9	16.0	96.2	96.1	180	77.8	44.6
MAX	36	21	26	18	22	18	32	360	290	241	149	157
MIN	5.0	10	6.3	3.0	8.0	4.0	9.5	.00	5.1	144	.00	.00
AC-FT	930	910	731	593	704	673	954	5920	5720	11070	4790	2660

CAL YR 1978 TOTAL 15352.20 MEAN 42.1 MAX 302 MIN 4.1 AC-FT 30450
WTR YR 1979 TOTAL 17971.05 MEAN 49.2 MAX 360 MIN .00 AC-FT 35650

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07124410 PURGATOIRE RIVER BELOW TRINIDAD LAKE, CO--Continued

PERIOD OF RECORD.--March 1977 to current year.

PERIOD OF DAILY RECORD.--
SUSPENDED SEDIMENT DISCHARGE: March 1977 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily, 47,000 mg/L Aug. 1, 1979; minimum daily, no flow many days during year.
SEDIMENT LOADS: Maximum daily, 16,900 tons (15,300 t) Aug. 1, 1979; minimum daily, no flow many days during year.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily, 47,000 mg/L Aug 1; minimum daily, no flow many days during year.
SEDIMENT LOADS: Maximum daily, 16,900 tons (15,300 t) Aug 1; minimum daily, no flow many days during year.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	9.5	22	.56	15	40	1.6	12	29	.94
2	7.9	22	.47	14	41	1.5	13	23	.81
3	7.1	16	.31	14	35	1.3	14	27	1.0
4	7.1	20	.38	15	---	1.2	8.9	18	.43
5	5.0	20	.27	18	26	1.3	6.5	33	.58
6	15	22	.89	20	39	2.1	6.3	29	.49
7	36	32	3.1	21	38	2.2	6.3	23	.39
8	35	32	3.0	18	39	1.9	7.9	---	.50
9	16	24	1.0	15	37	1.5	8.3	---	.50
10	8.8	29	.69	14	25	.95	8.0	---	.50
11	9.8	25	.66	14	30	1.1	8.0	22	.48
12	14	28	1.1	14	23	.87	8.0	20	.43
13	24	32	2.1	13	22	.77	10	22	.59
14	21	39	2.2	18	26	1.3	14	29	1.1
15	21	29	1.6	17	33	1.5	18	18	.87
16	21	37	2.1	14	39	1.5	18	17	.83
17	10	35	.95	12	39	1.3	18	19	.92
18	10	32	.86	12	43	1.4	18	18	.87
19	8.5	19	.44	14	47	1.8	22	19	1.1
20	8.5	76	1.7	17	36	1.7	26	21	1.5
21	9.5	---	1.0	16	48	2.1	18	15	.73
22	11	28	.83	17	37	1.7	13	13	.46
23	22	28	1.7	18	46	2.2	9.4	21	.53
24	29	27	2.1	17	32	1.5	8.5	13	.30
25	15	30	1.2	17	39	1.8	8.5	23	.53
26	12	26	.84	17	28	1.3	8.5	15	.34
27	12	31	1.0	14	32	1.2	8.5	15	.34
28	15	---	1.4	13	40	1.4	11	13	.39
29	13	39	1.4	11	31	.92	11	12	.36
30	17	35	1.6	10	28	.76	11	11	.33
31	18	33	1.6	---	---	---	9.8	11	.29
TOTAL	468.7	---	39.05	459	---	43.67	368.4	---	19.43

07124410 PURGATOIRE RIVER BELOW TRINIDAD LAKE, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JANUARY			FEBRUARY			MARCH	
1	7.1	14	.27	11	23	.68	15	14	.57
2	3.0	14	.11	11	21	.62	12	12	.39
3	3.0	12	.10	11	20	.59	11	14	.42
4	3.0	16	.13	10	26	.70	11	16	.48
5	4.4	24	.29	10	23	.62	9.4	23	.58
6	5.9	19	.30	11	13	.39	4.0	22	.24
7	9.0	15	.36	10	23	.62	4.5	---	.25
8	12	14	.45	8.4	22	.50	16	23	.99
9	7.1	33	.63	9.1	46	1.1	18	14	.68
10	13	19	.67	11	36	1.1	15	19	.77
11	11	14	.42	11	32	.95	13	20	.70
12	10	16	.43	14	35	1.3	13	7	.25
13	10	---	.50	15	31	1.3	11	1	.03
14	10	21	.57	17	24	1.1	10	1	.03
15	10	18	.49	22	23	1.4	10	2	.05
16	12	23	.75	20	30	1.6	11	4	.12
17	13	18	.63	16	14	.60	11	4	.12
18	14	20	.76	13	40	1.4	10	4	.11
19	17	23	1.1	12	25	.81	8.5	2	.05
20	18	27	1.3	14	75	2.8	6.3	3	.05
21	11	25	.74	16	29	1.3	9.2	20	.55
22	8.5	24	.55	16	31	1.3	13	25	.88
23	8.5	23	.53	14	28	1.1	13	25	.88
24	8.5	32	.73	9.3	30	.75	14	20	.76
25	8.5	26	.60	8.0	24	.52	12	18	.58
26	8.5	28	.64	9.2	28	.70	9.6	21	.54
27	9.9	28	.75	12	16	.52	8.5	---	.55
28	11	---	.75	14	32	1.2	8.5	25	.57
29	10	20	.54	---	---	---	11	55	1.7
30	11	28	.83	---	---	---	11	59	1.8
31	11	13	.39	---	---	---	9.8	66	1.7
TOTAL	298.9	---	17.31	355.0	---	27.57	339.3	---	17.39

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	9.5	53	1.4	29	41	3.2	5.1	---	640
2	9.5	67	1.7	29	44	3.4	12	10400	350
3	12	68	2.2	26	38	2.7	12	393	12
4	12	49	1.6	27	30	2.2	19	234	12
5	12	40	1.3	30	16	1.3	22	175	11
6	12	37	1.2	28	27	2.0	19	254	15
7	12	22	.71	23	35	2.2	27	167	12
8	11	42	1.2	21	36	2.0	29	122	9.6
9	10	38	1.0	23	36	2.2	13	94	3.3
10	10	---	1.0	42	45	5.1	13	188	6.6
11	10	37	1.0	46	46	5.7	13	160	5.6
12	12	32	1.0	40	40	4.3	18	116	5.6
13	12	40	1.3	32	18	1.6	18	92	4.5
14	12	35	1.1	23	27	1.7	10	96	2.6
15	12	34	1.1	18	32	1.6	7.2	83	1.6
16	12	---	1.1	18	34	1.7	7.3	101	2.0
17	12	32	1.0	18	28	1.4	7.7	82	1.7
18	12	40	1.3	38	34	3.6	182	116	65
19	14	39	1.5	61	39	6.4	290	89	69
20	16	29	1.3	76	57	12	284	85	65
21	16	29	1.3	133	125	47	204	81	45
22	16	44	1.9	123	109	36	166	64	29
23	22	38	2.3	113	1980	660	165	62	28
24	26	38	2.7	228	9800	4730	164	47	21
25	27	36	2.6	337	1490	1330	161	---	22
26	30	45	3.6	360	836	800	175	124	59
27	32	24	2.1	313	389	335	184	83	41
28	30	38	3.1	299	182	146	204	80	44
29	23	34	2.1	296	172	139	219	70	41
30	25	32	2.2	133	111	89	234	76	48
31	---	---	---	.00	---	.00	---	---	---
TOTAL	481.0	---	48.91	2983.00	---	8378.30	2884.3	---	1672.1

07124410 PURGATOIRE RIVER BELOW TRINIDAD LAKE, CO--Continued

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	241	67	44	134	47100	16900	.00	---	.00
2	212	68	39	123	2370	731	.00	---	.00
3	192	48	25	149	142	57	.01	---	.00
4	192	53	27	149	132	53	31	51	7.1
5	192	51	26	147	86	34	47	30	3.8
6	178	45	22	146	94	37	47	---	3.8
7	173	42	20	146	69	27	98	60	19
8	174	40	19	145	70	27	123	28	9.3
9	171	36	17	148	72	29	123	27	9.0
10	199	50	27	148	60	24	144	30	12
11	211	32	18	147	56	22	157	36	15
12	204	26	14	148	94	38	157	33	14
13	167	22	9.9	147	68	27	156	34	14
14	144	24	9.3	71	---	15	99	150	64
15	158	45	19	.00	---	.00	.00	---	.00
16	224	166	119	.00	---	.00	.00	---	.00
17	173	70	33	.00	---	.00	.00	---	.00
18	177	1800	860	.00	---	.00	.00	---	.00
19	178	1650	793	.00	---	.00	4.4	---	45
20	175	191	90	130	5340	3190	16	47	2.0
21	175	142	67	.54	75	.01	19	42	2.2
22	175	158	75	55	131	8.2	19	38	1.9
23	172	89	41	88	45	11	19	36	1.8
24	169	89	41	88	50	12	20	34	1.8
25	169	78	36	73	44	8.7	21	32	1.8
26	169	81	37	26	52	3.7	6.9	---	.60
27	169	72	33	.00	---	.00	.00	---	.00
28	168	68	31	2.7	63	.46	.00	---	.00
29	167	58	26	1.9	---	.30	12	29	1.4
30	167	44	20	.00	---	.00	20	30	1.6
31	146	60	24	.00	---	.00	---	---	---
TOTAL	5581	---	2662.2	2413.14	---	21255.37	1339.31	---	231.10
YEAR	17971.05		34412.40						

07124500 PURGATOIRE RIVER AT TRINIDAD, CO

LOCATION.--Lat 37°10'15", long 104°30'31", in SW¼SE¼ sec.13, T.33 S., R.64 W., Las Animas County, Hydrologic Unit 11020010, on left bank 90 ft (27 m) downstream from railroad bridge and 680 ft (210 m) downstream from Animas Street Bridge in Trinidad.

DRAINAGE AREA.--795 mi² (2,059 km²).

PERIOD OF RECORD.--October 1895 to September 1899, August to December 1905, November 1906 to March 1907, October 1907 to November 1908, May to August 1909 (gage heights and discharge measurements only), September 1909 to November 1912, October 1915 to September 1960, October 1961 to current year. Monthly discharge only for some periods, published in WSP 1311. Prior to October 1915, published as "Purgatory River."

REVISED RECORDS.--WSP 1117: Drainage area. WSP 1311: 1935(M). WSP 1731: 1925(M), 1942(M).

GAGE.--Water-stage recorder. Datum of gage is 5,979.76 ft (1,822.631 m) National Geodetic Vertical Datum of 1929. See WSP 1711 or 1731 for history of changes prior to Dec. 11, 1950. Dec. 11, 1950, to Sept. 30, 1960, water-stage recorder at site 180 ft (55 m) upstream at datum 2.00 ft (0.610 m) higher. Since May 30, 1955, supplemental nonrecording gage at site 90 ft (27 m) upstream on downstream side of railroad bridge; at datum 3.00 ft (0.914 m) lower prior to Oct. 1, 1962, and at present datum thereafter.

REMARKS.--Records good except those for winter period, which are poor. Diversions above station for irrigation of about 6,500 acres (26.3 km²). Peak flows regulated to some extent by Trinidad Dam, 3.8 mi (6.1 km) upstream, since January 1975. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--68 years (water years 1896-99, 1908, 1910-12, 1916-60, 1962-76), 83.3 ft³/s (2.359 m³/s), 60,350 acre-ft/yr (74.4 hm³/yr), prior to completion of Trinidad Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,000 ft³/s (793 m³/s) May 19, 1955, gage height, 14.35 ft (4.374 m), site and datum then in use, from rating curve extended above 2,800 ft³/s (79 m³/s), on basis of indirect measurements of peak flow above and below station; no flow for several days during summer of 1896, June 11, 1950, Sept. 20, 25, 28, 29, Oct. 3-5, 7, 8, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1859, 45,400 ft³/s (1,290 m³/s) Sept. 30, 1904, gage height, 16.6 ft (5.06 m), at site 680 ft (210 m) upstream, by slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,690 ft³/s (76.2 m³/s) at 1700 Aug. 18, gage height, 5.33 ft (1.625 m); minimum daily, 3.0 ft³/s (0.085 m³/s) Sept. 3, 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	16	20	7.0	13	14	11	26	13	282	150	3.2
2	10	16	21	4.0	13	13	11	29	18	227	127	3.2
3	9.0	16	19	4.0	13	12	13	27	16	198	161	3.0
4	9.0	18	13	5.0	14	12	14	25	21	196	159	26
5	8.0	20	11	9.0	14	9.8	13	27	25	196	154	48
6	14	22	10	11	14	5.7	13	25	22	183	150	46
7	33	23	9.0	13	13	3.2	13	20	29	168	148	88
8	31	20	8.0	15	13	14	12	19	45	171	148	116
9	15	18	7.0	14	12	18	11	22	27	166	152	114
10	8.1	17	8.0	18	13	16	11	39	22	185	159	133
11	8.1	17	8.0	17	13	13	11	47	20	204	161	143
12	11	17	8.0	16	14	13	11	41	23	198	159	146
13	21	16	10	17	16	11	12	33	24	163	157	161
14	21	25	15	18	18	10	12	22	16	141	228	122
15	21	23	18	16	22	10	11	16	11	154	60	6.3
16	21	19	19	16	21	11	11	14	11	218	10	4.4
17	10	16	19	16	18	11	11	14	8.7	175	9.0	3.7
18	9.0	16	19	16	14	11	12	29	174	215	205	3.2
19	7.8	19	23	19	13	9.8	14	54	314	183	35	7.8
20	7.5	22	26	20	14	7.5	16	73	314	171	157	19
21	11	20	22	15	16	9.0	16	137	224	218	12	23
22	16	22	14	8.7	16	13	16	123	173	185	52	22
23	24	23	11	9.0	16	14	16	110	171	180	96	22
24	29	23	11	10	9.8	14	19	221	175	178	94	23
25	18	22	9.0	11	8.4	13	20	349	173	178	79	23
26	14	22	7.8	12	9.4	11	25	369	183	178	41	14
27	14	20	11	12	11	9.0	26	310	190	180	6.3	3.2
28	16	18	11	11	14	9.0	24	296	218	180	6.6	3.0
29	16	17	13	11	---	11	19	303	236	190	8.4	13
30	20	16	12	10	---	12	20	177	249	175	3.9	25
31	20	---	10	11	---	11	---	15	---	171	3.5	---
TOTAL	486.5	579	422.8	391.7	395.6	351.0	444	3012	3145.7	5807	3091.7	1368.0
MEAN	15.7	19.3	13.6	12.6	14.1	11.3	14.8	97.2	105	187	99.7	45.6
MAX	33	25	26	20	22	18	26	369	314	282	228	161
MIN	7.5	16	7.0	4.0	8.4	3.2	11	14	8.7	141	3.5	3.0
AC-FT	965	1150	839	777	785	696	881	5970	6240	11520	6130	2710

CAL YR 1978 TOTAL 15777.7 MEAN 43.2 MAX 317 MIN 7.0 AC-FT 31300
WTR YR 1979 TOTAL 19495.0 MEAN 53.4 MAX 369 MIN 3.0 AC-FT 38670

07126100 LUNING ARROYO NEAR MODEL, CO

LOCATION.--Lat 37°18'16", long 104°00'54", in sec.33, T.31 S., R.59 W., Las Animas County, Hydrologic Unit 11020010, on right bank 600 ft (180 m) downstream from ford, 6 mi (10 km) upstream from mouth, 13.5 mi (21.7 km) east of Model, and 29 mi (47 km) northeast of Trinidad.

DRAINAGE AREA.--86 mi² (233 km²).

PERIOD OF RECORD.--July 1966 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 5,150 ft (1,570 m), from topographic map.

REMARKS.--Records good. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--13 years, 1.14 ft³/s (0.032 m³/s), 826 acre-ft/yr (1.02 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,400 ft³/s (266 m³/s) Aug. 9, 1968, gage height, 12.46 ft (3.798 m), from rating curve extended above 32 ft³/s (0.91 m³/s), on basis of slope-area measurements at gage heights 8.78 and 11.39 ft (2.676 and 3.472 m); no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 400 ft³/s (11.3 m³/s) Aug. 9, gage height, 6.40 ft (1.951 m) from floodmark, no peak above base of 500 ft³/s (14 m³/s); no flow most of time.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	9.3	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	17	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	1.3	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	24	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	10	.00	20	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	2.1	.00	22	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.03	.00	1.3	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.16	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	54	13
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	47	4.4
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.8	1.0
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	35	1.3	.04
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	15	.12	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.87	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.13	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	.00	.00	.00	.00	.00	.00	.00	.00	63.74	51.00	149.68	18.44
MEAN	.000	.000	.000	.000	.000	.000	.000	.000	2.12	1.65	4.83	.61
MAX	.00	.00	.00	.00	.00	.00	.00	.00	24	35	54	13
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	.00	.00	126	101	297	37

CAL YR 1978 TOTAL 279.63 MEAN .77 MAX 79 MIN .00 AC-FT 555
WTR YR 1979 TOTAL 282.86 MEAN .77 MAX 54 MIN .00 AC-FT 561

07126200 VAN BREMER ARROYO NEAR MODEL. CO

LOCATION.--Lat 37°20'45". long 103°57'27". in sec.13. T.31 S.. R.59 W.. Las Animas County. Hydrologic Unit 11020010. on right bank 3 mi (5 km) upstream from mouth. 16 mi (26 km) east of Model. and 33 mi (53 km) northeast of Trinidad.

DRAINAGE AREA.--168 mi^2 (435 km^2).

PERIOD OF RECORD.--July 1966 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 4.960 ft (1.512 m). from topographic map.

REMARKS.--Records good except those above 40 ft^3/s (1.13 m^3/s). which are fair. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--13 years. 2.21 ft^3/s (0.062 m^3/s). 1.600 acre-ft/yr (1.97 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge. 6.240 ft^3/s (177 m^3/s) May 26. 1967. gage height. 9.4 ft (2.87 m). from floodmarks. from rating curve extended above 65 ft^3/s (1.8 m^3/s). on basis of slope-area measurement of peak flow; maximum gage height. 9.98 ft (3.042 m) Aug. 9. 1979 from floodmark; no flow June 7-13. 1969.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 450 ft^3/s (13 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
July 18	0130	2.040	57.8	6.56	1.999	July 31	2300	484	13.7	3.88	1.183
July 24	2330	644	18.2	4.36	1.329	Aug. 9	2300	*6.050	171	a9.98	3.042
July 31	0130	985	27.9	5.15	1.570						

a From floodmark.

Minimum daily discharge. 0.03 ft^3/s (0.001 m^3/s) Mar. 28 to Apr. 1.

DISCHARGE. IN CUBIC FEET PER SECOND. WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.09	.09	.09	.08	.09	.12	.03	.06	.18	.09	90	.12
2	.09	.09	.09	.08	.09	.12	.06	.18	12	.09	28	.12
3	.09	.09	.09	.08	.09	.12	.12	.21	1.3	.09	4.8	.12
4	.09	.09	.09	.08	.10	.12	.15	.12	.30	.09	.50	.12
5	.09	.09	.09	.08	.10	.09	.15	.09	.15	.09	.21	.12
6	.09	.09	.09	.08	.10	.09	.12	.09	.12	.09	.12	.12
7	.09	.09	.09	.08	.10	.09	.09	.06	.09	.09	.09	.12
8	.09	.09	.09	.08	.10	.09	.09	.06	.18	.09	.06	.12
9	.09	.09	.09	.08	.12	.09	.09	.12	.50	.09	361	.12
10	.09	.09	.09	.08	.12	.09	.09	.18	.60	.09	430	.12
11	.09	.09	.09	.08	.12	.09	.09	.12	.18	.09	14	.12
12	.09	.09	.09	.08	.12	.09	.09	.09	.12	.09	5.0	.12
13	.09	.09	.09	.08	.12	.06	.06	.09	.09	.09	.40	.12
14	.09	.09	.09	.08	.15	.06	.06	.06	.09	.12	150	72
15	.09	.06	.09	.09	.15	.06	.06	.06	.09	.15	210	31
16	.09	.09	.09	.09	.15	.06	.06	.06	.09	.21	45	10
17	.09	.09	.09	.09	.15	.06	.06	.06	.09	.15	4.5	2.8
18	.09	.09	.09	.09	.15	.06	.06	.06	.09	152	.40	.50
19	.09	.09	.09	.09	.12	.06	.06	.06	.09	.70	.30	.40
20	.09	.09	.09	.09	.12	.06	.06	.09	.09	.96	.25	.18
21	.09	.09	.09	.09	.12	.06	.06	.18	.09	.80	.21	.18
22	.09	.09	.09	.09	.12	.06	.06	.15	.09	.21	.21	.15
23	.09	.09	.09	.09	.12	.06	.06	.12	.09	.12	.21	.15
24	.09	.09	.09	.09	.12	.06	.06	.09	.09	19	.21	.15
25	.09	.09	.09	.09	.12	.06	.06	.09	.09	83	.18	.15
26	.09	.09	.09	.09	.12	.06	.06	.09	.09	1.3	.15	.15
27	.09	.09	.09	.09	.12	.06	.06	.09	.09	.18	.12	.15
28	.09	.09	.09	.09	.12	.03	.06	.06	.09	.09	.12	.15
29	.09	.09	.09	.09	---	.03	.06	.06	.09	.09	.12	.15
30	.09	.09	.09	.04	---	.03	.06	.09	.09	.09	.12	.15
31	.09	---	.09	.09	---	.03	---	.21	---	177	.12	---
TOTAL	2.79	2.67	2.79	2.65	3.32	2.22	2.25	3.15	17.34	437.34	1346.40	119.97
MEAN	.090	.089	.090	.085	.12	.072	.075	.10	.58	14.1	43.4	4.00
MAX	.09	.09	.09	.09	.15	.12	.15	.21	12	177	430	72
MIN	.09	.06	.09	.08	.09	.03	.03	.06	.09	.09	.06	.12
AC-FT	5.5	5.3	5.5	5.3	6.6	4.4	4.5	6.2	34	867	2670	238

CAL YR 1978 TOTAL 157.88 MEAN .43 MAX 69 MIN .03 AC-FT 313
WTR YR 1979 TOTAL 1942.89 MEAN 5.32 MAX 430 MIN .03 AC-FT 3850

07126300 PURGATOIRE RIVER NEAR THATCHER, CO

LOCATION.--Lat 37°21'30", long 103°53'44", in sec.10, T.31 S., R.58 W., Las Animas County, Hydrologic Unit 11020010, on right bank 250 ft (76 m) downstream from county road bridge at gas line crossing, 1.2 mi (1.9 km) downstream from Van Bremer Arroyo, and 18 mi (29 km) southeast of Thatcher.

DRAINAGE AREA.--1,935 mi^2 (5,012 km^2).

PERIOD OF RECORD.--July 1966 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,790 ft (1,460 m), from topographic map.

REMARKS.--Records good except those for winter period, which are fair. Diversions above station for irrigation of about 30,000 acres (120 km^2). Peak flows regulated to some extent by Trinidad Dam, 52 mi (84 km) upstream, since January 1975. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--10 years (water years 1967-76), 37.9 ft^3/s (1.073 m^3/s), 27,460 acre-ft/yr (33.9 hm^3/yr), prior to completion of Trinidad Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,100 ft^3/s (428 m^3/s) June 17, 1967, gage height, 12.35 ft (3.764 m), from rating curve extended above 2,100 ft^3/s (59 m^3/s); no flow at times in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods of July 22, 1954, and May 19, 1955, reached stages of 26.7 and 25.2 ft (8.14 and 7.68 m), respectively, from floodmarks. Flood of June 8, 1965, reached a stage of 23.5 ft (7.16 m), from floodmarks, discharge, 47,700 ft^3/s (1,350 m^3/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,210 ft^3/s (176 m^3/s) at 1130 Aug. 14, gage height, 9.35 ft (2.850 m), from floodmark, from rating curve extended above 1,600 ft^3/s (45 m^3/s), on basis of slope-area measurement of peak flow; minimum daily, 0.16 ft^3/s (0.004 m^3/s) Oct. 10-15, 18-19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.54	1.5	5.9	6.0	9.0	12	9.4	1.2	290	38	370	18
2	.56	1.7	5.9	6.2	11	11	8.7	3.1	1390	155	97	17
3	.45	1.9	8.0	6.6	12	14	12	6.8	244	105	43	15
4	.35	3.0	7.1	7.0	14	13	12	4.1	106	35	31	14
5	.27	3.9	6.0	7.3	15	12	8.8	2.9	65	29	26	14
6	.22	3.5	6.0	7.5	17	11	8.6	2.4	50	27	20	13
7	.22	3.0	6.0	8.0	19	11	6.9	2.0	44	21	18	15
8	.20	2.5	6.0	8.5	21	11	6.1	1.6	1760	18	15	8.5
9	.18	2.4	7.5	8.2	23	12	5.8	2.1	1040	13	376	8.3
10	.16	2.5	6.8	8.3	25	14	23	4.6	539	11	733	9.8
11	.16	2.6	7.7	8.4	25	14	13	4.1	168	9.2	56	6.5
12	.16	3.9	8.7	9.9	24	13	9.1	6.1	105	7.8	31	8.3
13	.16	3.7	9.8	11	23	13	8.3	6.4	71	25	23	23
14	.16	3.5	11	12	27	13	7.0	5.1	57	21	3010	297
15	.16	3.5	12	14	28	12	4.8	4.5	43	31	1830	242
16	.18	3.8	12	16	19	10	3.6	3.6	32	364	308	78
17	.18	3.3	14	19	20	9.4	4.8	2.6	24	55	101	36
18	.16	2.9	18	28	23	8.9	8.8	2.2	20	667	65	25
19	.16	3.5	31	30	21	9.2	4.9	1.9	15	89	50	20
20	.18	3.7	27	27	20	9.9	3.7	1.8	14	56	65	16
21	.20	3.7	20	22	15	10	3.0	827	22	37	58	14
22	.92	3.7	20	15	14	11	2.5	144	26	38	54	14
23	.93	4.0	21	17	13	12	2.2	43	26	35	66	17
24	.92	4.0	19	18	14	11	2.0	20	24	64	261	15
25	2.3	4.1	15	15	13	11	1.6	21	18	243	89	15
26	2.5	4.1	13	13	12	11	1.6	116	17	55	266	14
27	2.3	4.3	11	11	12	9.6	1.4	123	14	80	100	12
28	2.1	8.4	13	10	12	8.7	1.3	80	14	44	47	12
29	2.1	8.6	12	8.0	---	7.9	1.1	81	9.0	44	33	12
30	1.8	6.1	8.0	8.0	---	9.3	1.2	91	11	40	25	12
31	1.6	---	7.0	8.0	---	11	---	1040	---	146	20	---
TOTAL	22.58	111.3	375.4	393.9	501.0	345.9	187.2	2655.1	6258.0	2603.0	8287	1021.4
MEAN	.73	3.71	12.1	12.7	17.9	11.2	6.24	85.6	209	84.0	267	34.0
MAX	2.5	8.6	31	30	28	14	23	1040	1760	667	3010	297
MIN	.16	1.5	5.9	6.0	9.0	7.9	1.1	1.2	9.0	7.8	15	6.5
AC-FT	45	221	745	781	994	686	371	5270	12410	5160	16440	2030

CAL YR 1978 TOTAL 12247.65 MEAN 33.6 MAX 1470 MIN .01 AC-FT 24290
WTR YR 1979 TOTAL 22761.78 MEAN 62.4 MAX 3010 MIN .16 AC-FT 45150

07126500 PURGATOIRE RIVER AT NINEMILE DAM, NEAR HIGBEE, CO

LOCATION.--Lat 37°42'53", long 103°30'36", in NW¼ sec.7, T.27 S., R.54 W., Otero County, Hydrologic Unit 11020010, on left bank at Ninemile Dam, 4 mi (6 km) southwest of Higbee, and 5.5 mi (8.8 km) upstream from Smith Canyon. Prior to Apr. 21, 1978 gage located 850 ft (260 m) upstream.

DRAINAGE AREA.--2,900 mi² (7,511 km²).

PERIOD OF RECORD.--October 1924 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1311: 1934(M), 1936(M), 1941-42(M), 1948-49(M). WSP 1731: 1929(M).

GAGE.--Water-stage recorder. Datum of gage is 4,240.59 ft (1,292.532 m) National Geodetic Vertical Datum of 1929, supplementary adjustment of 1960. See WSP 1711 or 1731 for history of changes prior to Dec. 6, 1956. Dec. 6, 1956 to Apr. 20, 1978, at site 850 ft (160 m) upstream.

REMARKS.--Records poor. Diversions for irrigation of about 32,000 acres (130 km²) above station. Discharge computed by combining discharge of river below Ninemile Dam and Ninemile canal. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--52 years (water years 1925-76), 94.5 ft³/s (2.676 m³/s), 68,470 acre-ft/yr (84.4 hm³/yr), prior to completion of Trinidad Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 105,000 ft³/s (2,970 m³/s) estimated, June 18, 1965, gage height, 19.6 ft (5.97 m), from floodmarks; no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge 4,660 ft³/s (132 m³/s) Aug. 15, gage height, 5.52 ft (1.68 m); no flow Oct. 1 to Dec. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	4.0	12	17	9.8	1.6	708	8.2	1160	30
2	.00	.00	.00	9.0	9.8	17	12	1.6	802	8.2	279	24
3	.00	.00	.00	10	9.8	17	13	3.2	617	104	145	19
4	.00	.00	.00	10	11	17	14	5.1	196	108	83	18
5	.00	.00	.00	11	12	17	13	8.7	115	43	55	19
6	.00	.00	.00	11	13	17	12	9.0	89	12	44	17
7	.00	.00	.00	12	14	18	12	7.5	56	8.2	39	17
8	.00	.00	.00	12	13	17	11	4.7	529	8.2	32	16
9	.00	.00	.00	12	13	17	9.8	5.1	986	16	28	17
10	.00	.00	1.0	11	13	17	9.8	6.6	559	12	1170	13
11	.00	.00	3.0	11	14	16	9.0	8.3	207	12	317	12
12	.00	.00	7.0	11	14	16	12	7.6	151	9.0	107	5.5
13	.00	.00	5.6	12	18	14	14	6.3	112	7.2	68	3.1
14	.00	.00	5.6	13	31	13	12	4.0	82	5.8	55	7.6
15	.00	.00	5.6	14	24	13	11	3.2	67	3.7	2590	353
16	.00	.00	7.9	15	11	13	9.0	3.2	46	308	779	199
17	.00	.00	7.9	16	22	12	8.3	3.2	36	209	230	92
18	.00	.00	7.9	21	25	11	8.3	3.2	32	859	116	50
19	.00	.00	17	21	21	11	9.0	3.2	29	492	382	32
20	.00	.00	8.5	16	20	9.8	7.9	3.2	23	129	310	24
21	.00	.00	3.3	22	20	11	3.2	7.4	22	76	137	17
22	.00	.00	4.3	22	21	11	3.2	569	17	52	170	13
23	.00	.00	4.8	20	14	12	3.2	105	18	44	103	18
24	.00	.00	1.8	32	12	12	3.5	60	673	45	131	17
25	.00	.00	3.6	18	13	11	3.5	49	173	336	201	17
26	.00	.00	15	18	17	9.8	1.6	76	52	304	110	16
27	.00	.00	1.8	18	17	9.8	1.6	102	27	81	251	13
28	.00	.00	5.7	24	17	12	1.6	110	83	71	115	13
29	.00	.00	10	24	---	12	1.6	82	35	61	70	13
30	.00	.00	5.7	18	---	11	1.6	59	8.2	49	49	12
31	.00	---	5.0	15	---	11	---	104	---	80	36	---
TOTAL	.00	.00	138.00	483.0	451.6	422.4	241.5	1421.9	6550.2	3561.5	9362	1117.2
MEAN	.000	.000	4.45	15.6	16.1	13.6	8.05	45.9	218	115	302	37.2
MAX	.00	.00	17	32	31	18	14	569	986	859	2590	353
MIN	.00	.00	.00	4.0	9.8	9.8	1.6	1.6	8.2	3.7	28	3.1
AC-FT	.00	.00	274	958	896	838	479	2820	12990	7060	18570	2220

CAL YR 1978 TOTAL 16506.71 MEAN 45.2 MAX 1960 MIN .00 AC-FT 32740
WTR YR 1979 TOTAL 23749.30 MEAN 65.1 MAX 2590 MIN .00 AC-FT 47110

07128500 PURGATOIRE RIVER NEAR LAS ANIMAS, CO

LOCATION.--Lat 38°02'02", long 103°12'00", in NE¼SW¼ sec.23, T.23 S., R.52 W., Bent County, Hydrologic Unit 11020010, on right bank at downstream side of bridge on State Highway 101, 2.3 mi (3.7 km) southeast of courthouse in Las Animas, and 4.5 mi (7.2 km) upstream from mouth.

DRAINAGE AREA.--3,503 mi² (9,073 km²).

PERIOD OF RECORD.--May to September 1889, July to October 1909 (gage heights and discharge measurements only), January 1922 to September 1931, July 1948 to current year. Monthly discharge only for some periods, published in WSP 1311. Published as Purgatoire Creek at Las Animas in 1889 and as Purgatory River near Las Animas in 1909.

REVISED RECORDS.--WSP 1241: 1927(M).

GAGE.--Water-stage recorder. Datum of gage is 3,874.94 ft (1,181.082 m), National Geodetic Vertical Datum of 1929. See WSP 1731 for history of changes prior to Oct. 1, 1955. Oct. 1, 1955, to July 11, 1966, at datum 3.00 ft (0.914 m) higher. Supplementary water-stage recorder at site 1.6 mi (2.6 km) downstream at different datum July 12 to Nov. 17, 1966.

REMARKS.--Records good except those for winter period which are fair and those below 2.0 ft³/s (0.051 m³/s) which are poor. Diversions for irrigation of about 36,000 acres (150 km²) above station. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--37 years (water years 1923-31, 1949-76), 116 ft³/s (3.285 m³/s) 84,040 acre-ft/yr (104 hm³/yr), prior to completion of Trinidad Lake.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 70,000 ft³/s (1,980 m³/s) May 20, 1955, gage height, 20.00 ft (6.096 m), present datum, from rating curve extended above 38,000 ft³/s (1,100 m³/s); no flow at times in 1924-25, 1927, 1949, 1974.

EXTREMES OUTSIDE PERIOD OF RECORD.--Greatest flood since at least 1860 occurred Oct. 1, 1904.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,530 ft³/s (71.6 m³/s) at 2000 Aug. 1, gage height, 7.03 ft (2.143 m); minimum daily, 1.2 ft³/s (0.034 m³/s) Nov. 12, 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	2.1	2.7	2.2	4.8	4.7	4.7	3.2	313	8.5	996	22
2	1.6	2.2	2.7	2.2	4.7	5.1	4.7	3.2	303	9.2	579	16
3	1.5	1.7	2.7	2.2	4.4	7.0	12	3.7	795	13	168	9.4
4	1.5	1.7	2.7	2.1	3.6	5.7	6.2	4.2	261	14	83	7.0
5	1.5	1.7	2.2	2.0	3.2	4.7	5.7	4.2	119	35	41	6.4
6	1.5	1.7	2.2	1.9	3.4	5.0	5.5	3.7	72	13	22	4.8
7	1.6	1.7	2.7	1.8	4.1	4.5	5.0	3.7	48	26	12	4.9
8	1.5	1.7	2.7	1.8	4.4	5.2	5.0	3.7	33	12	8.2	5.7
9	1.5	1.7	2.7	2.0	4.5	6.0	5.0	4.7	825	17	8.7	4.2
10	1.6	1.7	1.7	2.5	5.7	4.6	5.0	14	699	11	132	3.4
11	1.6	1.7	2.2	3.0	8.1	4.7	5.0	10	450	5.5	685	4.4
12	1.7	1.2	2.2	4.0	11	4.7	4.7	5.7	185	3.5	157	4.8
13	1.6	1.2	2.2	4.0	11	4.7	5.3	5.2	113	2.2	65	4.7
14	1.6	1.7	2.2	3.0	10	5.2	5.1	4.7	74	2.2	37	4.5
15	1.7	1.7	2.2	3.5	9.0	6.2	3.7	4.7	51	1.7	909	5.2
16	1.8	1.7	2.2	4.0	6.0	5.2	3.7	4.2	32	572	1380	169
17	1.7	1.7	2.2	5.0	5.5	4.7	3.7	4.3	17	249	379	99
18	1.7	1.7	2.2	6.0	5.1	7.7	3.7	4.6	13	539	255	45
19	1.7	1.7	2.7	7.0	4.7	4.7	3.7	3.7	7.1	1120	98	22
20	1.7	1.7	3.2	8.0	5.0	12	3.7	3.4	5.2	297	342	9.1
21	1.7	1.7	2.7	9.0	5.0	25	3.7	4.3	4.4	113	182	5.7
22	1.8	1.7	2.2	9.0	5.2	6.7	3.7	103	3.7	51	94	5.9
23	2.0	1.7	2.7	8.5	4.9	6.2	4.2	191	2.2	22	101	3.6
24	1.9	1.7	2.2	8.0	4.4	6.2	4.7	104	137	14	70	4.3
25	2.0	2.7	2.2	8.0	4.3	4.2	4.2	56	747	16	100	4.3
26	2.0	2.7	2.2	7.0	5.9	4.2	3.7	80	87	340	124	4.2
27	2.0	2.7	2.2	5.9	5.5	4.2	3.7	116	36	141	95	2.9
28	2.0	2.7	2.2	5.5	4.8	4.2	3.7	79	13	48	138	2.2
29	2.0	2.7	2.2	5.2	---	4.7	3.7	64	7.3	27	75	1.7
30	2.1	2.7	2.2	5.9	---	5.7	3.7	26	14	38	44	1.7
31	2.1	---	2.2	6.2	---	5.2	---	16	---	26	30	---
TOTAL	53.8	56.9	73.7	146.4	158.2	188.8	140.1	938.1	5466.9	3786.8	7409.9	488.0
MEAN	1.74	1.90	2.38	4.72	5.65	6.09	4.67	30.3	182	122	239	16.3
MAX	2.1	2.7	3.2	9.0	11	25	12	191	825	1120	1380	169
MIN	1.5	1.2	1.7	1.8	3.2	4.2	3.7	3.2	2.2	1.7	8.2	1.7
AC-FT	107	113	146	290	314	374	278	1860	10840	7510	14700	968

CAL YR 1978 TOTAL 14987.7 MEAN 41.1 MAX 2580 MIN 1.2 AC-FT 29730
WTR YR 1979 TOTAL 18907.6 MEAN 51.8 MAX 1380 MIN 1.2 AC-FT 37500

07130000 JOHN MARTIN RESERVOIR AT CADDOA, CO

LOCATION.--Lat 38°04'05", long 102°56'13", in NE¼NW¼ sec.8, T.23 S., R.49 W., Bent County, Hydrologic Unit 11020009, at dam on Arkansas River at Caddoa, 3.2 mi (5.1 km) southeast of Hasty, and 58 mi (93 km) upstream from Colorado-Kansas State line.

DRAINAGE AREA.--18,915 mi² (48,990 km²), of which 785 mi² (2,033 km²) is probably noncontributing.

PERIOD OF RECORD.--January 1943 to current year. Monthend contents only prior to November 1943, published in WSP 1311.

GAGE.--Water-stage recorder for elevations above about 3,784 ft (1,153.4 m) and nonrecording gage read once daily for those below. Datum of gage is 3,760.00 ft (1,146.048 m) National Geodetic Vertical Datum of 1929 (levels by U.S. Corps of Engineers); gage readings have been reduced to elevations NGVD.

REMARKS.--Records good. Reservoir is formed by concrete and earthfill dam. Storage began while dam was under construction prior to 1943, and record of contents began Jan. 1, 1943. Capacity (based on 1972 resurvey; new capacity table put into use Nov. 1, 1972), 621,300 acre-ft (766 hm³) at elevation 3,870.00 ft (1,179.576 m) top of spillway gates, of which 351,000 acre-ft (433 hm³) between elevations 3,764.20 ft (1,147.328 m), elevation of no contents, and 3,851.00 ft (1,173.785 m) is for conservation, and 270,300 acre-ft (333 hm³) between elevations 3,851.00 ft (1,173.785 m) and 3,870.00 ft (1,179.576 m) is reserved for flood control. No dead storage. Figures given represent total contents.

COOPERATION.--Capacity tables furnished by U.S. Army, Corps of Engineers.

EXTREMES (AT 2400) FOR PERIOD OF RECORD.--Maximum contents, 429,600 acre-ft (530 hm³) Aug. 25, 1965, elevation, 3,856.16 ft (1,175.358 m); no contents at times most years.

EXTREMES (AT 2400) FOR CURRENT YEAR.--Maximum contents, 16,220 acre-ft (20.0 hm³) Apr. 15, elevation, 3,796.47 ft (1,157.164 m); no contents Oct. 1 to Oct. 31.

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	18	895	1940	6300	12470	15250	4040	3070	9140	5320	6240
2	0	36	905	1960	6530	12640	15250	3400	2670	9160	7370	6150
3	0	61	924	2030	6800	12810	15460	3320	2470	9100	7210	6150
4	0	108	961	2090	7060	12940	15500	3310	3160	8920	6620	6150
5	0	176	978	2160	7240	13070	15480	3250	3150	9000	5940	6120
6	0	205	986	2210	7430	13190	15600	3170	2890	8980	5620	6100
7	0	236	995	2270	7620	13400	15620	3150	2600	9110	5520	6060
8	0	264	1010	2330	7800	13610	15660	3110	2280	8870	5320	5930
9	0	287	1020	2390	7990	13820	15660	3210	3830	8880	5200	5760
10	0	312	1040	2500	8190	13940	15700	3230	6550	8680	4940	5540
11	0	338	1050	2560	8450	14020	15800	3220	8810	8420	5000	5300
12	0	368	1070	2680	8700	14140	15780	3190	9160	8020	4670	5090
13	0	392	1080	2760	8980	14200	15910	3150	8740	6940	4540	4920
14	0	423	1100	2860	9280	14250	16110	3080	8250	5860	4530	4810
15	0	458	1100	2940	9590	14330	16220	3040	7710	4640	4980	4600
16	0	498	1100	3030	9810	14430	15910	3000	7130	4110	7470	4460
17	0	524	1120	3120	9960	14470	15330	2980	6900	4490	7690	4530
18	0	580	1150	3240	10190	14550	14790	2980	7070	4660	7470	4620
19	0	610	1180	3340	10480	14570	14180	2980	6910	6140	7070	4610
20	0	623	1220	3520	10720	14590	13450	3000	6870	6540	7270	4390
21	0	644	1240	3680	10930	14790	12640	2980	6410	6280	7250	4210
22	0	672	1290	3870	11140	14890	11810	2940	6770	5980	7000	4160
23	0	693	1380	4000	11300	14950	10970	2940	6820	5760	6610	4180
24	0	738	1430	4160	11500	14950	10030	2940	7560	5670	6380	4240
25	0	764	1500	4360	11630	14930	9080	3030	10190	5620	6280	4240
26	0	792	1580	4700	11900	15010	8010	2860	10350	6050	6350	4240
27	0	814	1670	5040	12100	15110	7100	2800	10090	5700	6360	4260
28	0	833	1770	5320	12280	15150	6110	2850	9690	5330	6460	4200
29	0	852	1860	5620	---	15170	5390	2810	9250	5250	6340	4160
30	0	877	1880	5860	---	15150	4680	3200	9190	5050	6340	4110
31	0	---	1890	6110	---	15170	---	3370	---	4860	6340	---
MAX	.00	877	1890	6110	12280	15170	16220	4040	10350	9160	7690	6240
MIN	.00	18	895	1940	6300	12470	4680	2800	2280	4110	4530	4110

WTR YR 1979 MAX 16220 MIN .00

07130500 ARKANSAS RIVER BELOW JOHN MARTIN RESERVOIR, CO

LOCATION.--Lat 38°03'59", long 102°55'55", in NW¼NE¼ sec.8, T.23 S., R.49 W., Bent County, Hydrologic Unit 11020009, on right bank 2.6 mi (4.2 km) upstream from Caddoa Creek, 0.2 mi (0.3 km) downstream from John Martin Dam, and 3.5 mi (5.6 km) southeast of Hasty.

DRAINAGE AREA.--18,915 mi² (48,990 km²), of which 785 mi² (2,033 km²) is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1938 to current year. Published as "at Caddoa" prior to October 1947.

REVISED RECORDS.--WSP 1241: 1942(M). WSP 1341: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 3,737.40 ft (1,139.160 m), National Geodetic Vertical Datum of 1929. Prior to Feb. 22, 1940, at site 3 mi (5 km) upstream at datum 22.83 ft (6.959 m) higher. Feb. 22, 1940, to Feb. 4, 1943, at site 700 ft (210 m) upstream at datum 3.64 ft (1.109 m) higher. Feb. 5, 1943, to Apr. 8, 1975, at site 1.5 mi (2.4 km) downstream at datum approximately 27.5 ft (8.38 m) lower.

REMARKS.--Records good except those above 1,500 ft³/s (42.5 m³/s) which are fair. Storage diversions above station for irrigation of about 438,000 acres (1,770 km²) and for flood control. Flow completely regulated by John Martin Dam (station 07130000) 0.2 mi (0.3 km) upstream since Oct. 1948.

AVERAGE DISCHARGE.--5 years (water years 1939-43), 628 ft³/s (17.78 m³/s), unadjusted, 455,000 acre-ft/yr (561 hm³/yr) during construction of John Martin Dam; 31 years (water years 1949-79), 212 ft³/s (6.004 m³/s), 153,600 acre-ft/yr (189 hm³/yr), adjusted for storage in John Martin Reservoir.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,000 ft³/s (1,130 m³/s) Apr. 24, 1942, gage height, 10.46 ft (3.188 m), site and datum then in use, from rating curve extended above 12,000 ft³/s (340 m³/s) on basis of flow-over-dam and critical-depth measurement of peak flow; no flow at times in 1945-47; minimum daily prior to construction of John Martin Reservoir, 5 ft³/s (0.14 m³/s) July 16, 1939.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,140 ft³/s (60.6 m³/s) at 1300 June 2, gage height, 5.57 ft (1.698 m); minimum daily, 0.73 ft³/s (0.021 m³/s) Feb. 12-19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	6.3	9.8	7.3	1.2	1.4	1.2	337	562	519	532	187
2	26	8.3	8.8	7.3	1.2	1.4	1.2	329	1190	618	546	139
3	25	9.5	9.0	6.8	1.2	1.4	1.2	79	1080	727	548	103
4	22	9.3	8.2	6.8	1.2	1.4	1.2	40	552	696	541	88
5	20	9.2	8.4	6.7	1.2	1.4	1.2	54	373	633	524	75
6	19	10	8.3	6.8	1.2	1.4	1.2	55	371	619	343	50
7	18	10	7.6	6.7	1.2	1.4	1.2	31	557	740	185	91
8	18	10	8.1	7.0	1.2	1.4	1.2	14	706	672	188	123
9	18	10	7.8	7.1	1.2	1.5	1.4	14	735	642	166	125
10	17	10	8.0	7.1	1.2	1.5	1.4	22	630	603	186	145
11	16	9.8	8.0	7.3	.95	1.6	1.2	38	604	524	629	150
12	16	10	7.8	4.8	.73	1.5	12	44	573	795	441	129
13	15	10	8.2	1.7	.73	2.1	13	45	520	996	331	118
14	15	10	7.4	1.4	.73	2.3	1.2	51	490	986	256	125
15	15	11	7.4	1.4	.73	1.9	1.2	49	425	993	176	144
16	15	11	7.4	1.4	.73	1.9	211	37	421	938	530	174
17	15	11	7.7	1.4	.73	1.6	321	30	530	514	527	256
18	15	11	7.5	1.2	.73	1.7	322	20	546	870	514	229
19	15	11	7.7	1.2	.73	1.6	344	16	587	795	493	186
20	15	11	8.2	1.2	1.2	1.6	387	23	531	632	520	188
21	15	11	7.8	1.2	1.4	1.7	401	40	487	501	615	119
22	14	11	7.6	1.2	1.4	1.6	418	41	645	502	626	28
23	13	11	8.0	1.2	1.4	1.6	462	364	613	506	498	41
24	15	11	8.0	1.2	1.4	1.6	513	487	715	493	444	45
25	17	12	7.7	1.2	1.4	1.7	513	470	506	484	385	25
26	16	12	7.7	1.2	1.4	1.6	529	609	502	579	549	24
27	17	11	7.8	1.2	1.4	1.7	522	565	502	695	552	26
28	18	11	7.5	1.2	1.4	1.6	503	483	477	569	521	30
29	18	11	7.6	1.2	---	1.6	381	568	566	516	543	33
30	17	11	7.7	1.2	---	1.4	342	394	572	532	372	35
31	16	---	7.6	1.2	---	1.4	---	432	---	529	235	---
TOTAL	541	310.4	246.3	105.8	31.19	49.5	6210.0	5781	17568	20418	13516	3231
MEAN	17.5	10.3	7.95	3.41	1.11	1.60	207	186	586	659	436	108
MAX	30	12	9.8	7.3	1.4	2.3	529	609	1190	996	629	256
MIN	13	6.3	7.4	1.2	.73	1.4	1.2	14	371	484	166	24
AC-FT	1070	616	489	210	62	98	12320	11470	34850	40500	26810	6410

CAL YR 1978 TOTAL 50361.88 MEAN 138 MAX 1560 MIN .73 AC-FT 99890
WTR YR 1979 TOTAL 68008.19 MEAN 186 MAX 1190 MIN .73 AC-FT 134900

07130500 ARKANSAS RIVER BELOW JOHN MARTIN RESERVOIR, CO--Continued
(Irrigation Network Station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1942 to August 1943, October 1945 to July 1949, January 1951 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: January 1951 to current year.
WATER TEMPERATURES: January 1951 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 5,180 micromhos Apr. 21, 1955; minimum daily, 476 micromhos June 18, 1965.
WATER TEMPERATURES: Maximum daily, 29.0°C Aug. 6, 1951; minimum, freezing point on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 4,160 micromhos Nov. 17; minimum daily, 740 micromhos June 28.
WATER TEMPERATURES: Maximum daily, 26.0°C July 3, 28, 29; minimum daily, 2.5°C on several days during November to January.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT										
18...	1300	21	3900	8.3	13.0	11.8	1400	1200	310	150
NOV										
17...	1500	9.0	4160	8.3	2.5	--	1600	1400	360	170
JAN										
05...	1515	6.7	4000	7.9	2.5	--	1500	1200	300	170
FEB										
09...	0900	1.2	3900	7.5	3.5	8.3	1400	1100	330	150
MAR										
09...	0930	1.5	3200	7.7	6.0	10.4	1200	870	280	120
APR										
05...	1445	1.1	3200	7.5	16.0	13.5	1300	930	300	130
MAY										
03...	1300	43	3000	8.0	12.5	8.2	1100	900	240	120
31...	1349	673	1180	7.9	18.0	9.0	430	310	110	37
AUG										
03...	1045	553	1100	7.5	24.0	9.2	440	340	110	39
31...	1245	265	1380	8.3	23.0	9.4	520	410	130	47
SEP										
28...	1000	25	2320	8.2	18.5	8.6	950	800	200	110

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT									
18...	420	4.9	8.0	250	0	210	1900	140	1.2
NOV									
17...	450	4.9	6.9	260	0	210	2000	130	.9
JAN									
05...	450	5.1	10	--	--	270	1900	150	.9
FEB									
09...	360	4.1	10	--	--	370	1500	130	1.0
MAR									
09...	280	3.5	10	--	--	320	1400	89	1.0
APR									
05...	280	3.4	7.2	--	--	350	1400	90	1.0
MAY									
03...	320	4.2	9.3	--	--	190	1400	100	1.1
31...	79	1.7	5.3	--	--	--	410	33	.8
AUG									
03...	82	1.7	6.3	--	--	92	440	18	.5
31...	97	1.9	5.0	--	--	110	600	26	.7
SEP									
28...	210	3.0	7.5	--	--	150	1100	62	.8

07130500 ARKANSAS RIVER BELOW JOHN MARTIN RESERVOIR, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT									
18...	8.0	3060	4.16	174	.63	.020	.01	10	100
NOV									
17...	11	3260	4.43	79.2	1.1	.010	.01	20	400
JAN									
05...	11	3160	4.30	57.2	1.4	.050	.00	40	600
FEB									
09...	14	2720	3.70	8.81	.63	.010	.00	50	--
MAR									
09...	11	2390	3.25	9.68	.65	.010	.00	30	2900
APR									
05...	8.2	2430	3.30	7.22	.24	--	.05	600	3000
MAY									
03...	2.4	2310	3.14	268	.00	.020	--	20	80
31...	6.9	759	1.03	1380	.99	--	--	30	30
AUG									
03...	9.5	763	1.04	1140	.46	.060	--	<10	10
31...	8.8	983	1.34	703	.42	.000	.00	30	30
SEP									
28...	6.9	1790	2.43	123	.31	.010	--	10	120

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---						---	2080	1200	900	1030	1300
2	3300						---	3000	1380	840	1100	1500
3	3500						---	3000	1080	850	1050	1400
4	3500						---	3000	---	800	950	1300
5	3500						---	2060	---	800	975	1300
6	3600						---	3010	1350	840	975	1600
7	---						---	2100	1280	750	1250	1600
8	---						---	---	1250	800	1300	---
9	---						---	---	950	790	1400	---
10	3500						---	---	1300	750	1350	1500
11	3500						---	3010	1100	810	1100	1700
12	3500						---	4000	975	760	1050	1600
13	---						1450	3500	950	840	1150	1800
14	---						---	3600	910	---	1200	1800
15	---						---	3900	950	---	1200	---
16	---						---	3100	900	825	1300	---
17	3500						2080	3400	900	950	1230	1750
18	3600						2050	3400	1000	950	1200	2100
19	3600						2080	---	975	910	1100	2100
20	---						2070	---	975	950	1250	2030
21	---						2070	3400	980	---	1200	1850
22	---						2080	2800	950	---	1150	---
23	---						2070	3100	975	960	1230	---
24	3500						2060	2600	950	950	1150	2150
25	3600						2070	2600	900	925	1200	2100
26	---						2070	2030	925	1000	1200	2180
27	3600						2090	1700	910	1000	1200	1950
28	---						2080	1510	740	1000	1300	2150
29	---						2090	1450	840	1000	1250	---
30	---						2080	1250	750	1100	1300	---
31	---						---	1080	---	1100	1300	---

07130500 ARKANSAS RIVER BELOW JOHN MARTIN RESERVOIR, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---						---	14.0	16.0	24.0	22.0	24.0
2	15.0						---	15.0	16.0	23.0	24.0	22.0
3	14.0						---	12.0	17.0	26.0	24.0	22.0
4	14.0						---	12.0	---	25.0	24.0	22.0
5	12.0						---	17.0	---	24.0	24.0	22.0
6	12.0						---	14.0	21.0	23.0	24.0	22.0
7	---						---	14.0	20.0	24.0	24.0	21.0
8	---						---	---	18.0	24.0	24.0	---
9	---						---	---	15.0	24.0	23.0	---
10	13.0						---	---	15.0	23.0	23.0	25.0
11	13.0						---	12.0	16.0	24.0	23.0	21.0
12	13.0						---	12.0	18.0	25.0	23.0	20.0
13	---						11.0	11.0	19.0	24.0	22.0	19.0
14	---						---	13.0	21.0	---	20.0	18.0
15	---						---	16.0	22.0	---	18.0	---
16	---						---	16.0	23.0	25.0	21.0	---
17	12.0						13.0	16.0	23.0	24.0	21.0	17.0
18	13.0						16.0	18.0	23.0	25.0	22.0	18.0
19	11.0						17.0	---	22.0	23.0	22.0	17.0
20	---						16.0	---	20.0	23.0	22.0	19.0
21	---						15.0	15.0	21.0	---	21.0	18.0
22	---						17.0	14.0	21.0	---	22.0	---
23	---						16.0	15.0	22.0	24.0	22.0	---
24	9.0						16.0	17.0	23.0	24.0	22.0	17.0
25	11.0						15.0	19.0	22.0	25.0	22.0	17.0
26	---						16.0	18.0	22.0	24.0	22.0	17.0
27	7.0						14.0	19.0	22.0	25.0	20.0	17.0
28	---						15.0	21.0	22.0	26.0	22.0	17.0
29	---						14.0	22.0	23.0	26.0	22.0	---
30	---						14.0	19.0	24.0	25.0	23.0	---
31	---						---	16.0	---	22.0	23.0	---

07133000 ARKANSAS RIVER AT LAMAR, CO

LOCATION.--Lat 38°06'24", long 102°37'04", in SE¼ sec.30, T.22 S., R.46 W., Prowers County, Hydrologic Unit 11020009, on left bank at downstream side of bridge on U.S. Highways 50 and 287, and 1.4 mi (2.3 km) north of courthouse in Lamar.

DRAINAGE AREA.--19,780 mi² (51,230 km²), of which 950 mi² (2,460 km²) is probably noncontributing.

PERIOD OF RECORD.--May 1913 to September 1955, April 1959 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1341: 1921(M), 1945-46(M), drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,602.23 ft (1,097.960 m), National Geodetic Vertical Datum of 1929. See WSP 1731 for history of changes prior to Apr. 4, 1959. Apr. 4, 1959, to Mar. 26, 1968, at site 450 ft (140 m) upstream at datum 2.42 ft (0.738 m) lower.

REMARKS.--Records good except those for winter period, which are poor. Flow regulated by John Martin Dam (station 07130000) 21 mi (34 km) upstream since Oct. 1948. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation of about 487,000 acres (1,970 km²), and return flow from irrigated areas. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--30 years (water years 1914-43), 298 ft³/s (8.439 m³/s), 215,900 acre-ft/yr (266 hm³/yr), prior to and during construction of John Martin Dam, 27 years (water years 1949-55, 1960-79), 84.8 ft³/s (2.402 m³/s), unadjusted 61,440 acre-ft/yr (75.8 hm³/yr), subsequent to completion of John Martin Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 130,000 ft³/s (3,680 m³/s) June 5, 1921, gage height, 14.55 ft (4.435 m), present datum, from rating curve extended above 10,000 ft³/s (280 m³/s); maximum gage height, 16.48 ft (5.023 m) June 18, 1965, present datum, from floodmarks; no flow at times in 1913-15, 1953.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,120 ft³/s (31.7 m³/s) at 2200 June 2, gage height, 4.47 ft (1.362 m); minimum daily, 0.20 ft³/s (0.006 m³/s) Dec. 30 to Jan. 1, Jan. 14, 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	4.0	1.2	.20	.70	5.7	.90	22	348	60	95	75
2	2.2	4.3	1.1	.30	1.0	5.4	1.1	17	548	50	93	92
3	2.2	4.3	.70	.30	1.5	5.5	1.3	15	788	65	105	71
4	2.2	3.8	.70	.50	2.0	7.0	1.4	19	280	93	101	52
5	2.2	3.9	3.1	.50	2.2	6.6	.97	7.8	42	90	98	48
6	2.5	4.0	.90	.40	2.6	6.5	.29	10	13	50	76	42
7	2.8	4.0	.70	.30	2.8	6.3	.49	11	37	84	75	25
8	2.5	4.3	.70	.30	3.0	6.2	.56	9.8	78	101	65	19
9	2.5	4.3	.50	.50	2.8	6.8	.87	9.0	247	77	35	7.2
10	2.5	4.3	.40	.50	4.4	6.6	1.1	11	128	80	27	8.9
11	2.2	3.7	.40	.50	6.2	6.7	1.2	11	95	74	110	19
12	2.2	3.4	.50	.50	5.0	6.7	2.1	9.8	83	112	70	21
13	2.2	3.4	.60	.30	5.1	6.0	5.1	9.8	67	444	70	11
14	2.2	3.4	.70	.20	5.9	5.9	12	9.4	57	507	80	14
15	2.5	3.1	.80	.20	5.8	5.3	8.0	8.6	48	499	108	21
16	2.2	2.8	1.0	.30	1.1	2.0	8.0	8.6	53	561	126	29
17	1.6	2.8	1.1	.40	2.3	1.3	23	4.0	57	305	131	36
18	1.6	2.8	1.2	.50	3.8	.82	10	5.8	98	180	59	58
19	1.6	3.1	1.2	.70	6.0	.56	10	4.9	75	405	365	59
20	1.9	3.7	.80	.90	5.3	1.6	11	5.5	92	310	80	52
21	1.9	2.8	.30	1.0	4.9	1.9	30	7.4	61	127	66	50
22	2.8	2.8	1.1	1.0	5.0	1.9	39	11	89	110	105	22
23	2.8	2.8	1.3	1.0	5.4	.90	56	20	114	98	76	24
24	2.8	4.0	.50	1.0	5.2	.50	62	54	142	90	61	18
25	2.8	4.7	.90	1.0	4.6	.50	43	34	90	78	89	17
26	3.4	3.7	.90	.70	5.7	.50	61	106	80	95	90	15
27	4.0	2.4	.50	.50	5.5	.70	64	116	70	120	129	12
28	4.0	1.8	.70	.40	5.7	.70	61	40	60	110	54	9.8
29	3.4	2.1	.70	.40	---	.50	50	122	75	82	67	7.8
30	4.0	1.3	.20	.40	---	.30	44	428	75	104	69	7.8
31	4.0	---	.20	.50	---	.70	---	171	---	103	62	---
TOTAL	79.9	101.8	25.60	16.20	111.50	108.58	609.38	1318.4	4090	5264	2837	943.5
MEAN	2.58	3.39	.83	.52	3.98	3.50	20.3	42.5	136	170	91.5	31.5
MAX	4.0	4.7	3.1	1.0	6.2	7.0	64	428	788	561	365	92
MIN	1.6	1.3	.20	.20	.70	.30	.29	4.0	13	50	27	7.2
AC-FT	158	202	51	32	221	215	1210	2620	8110	10440	5630	1870

CAL YR 1978 TOTAL 17802.50 MEAN 48.8 MAX 668 MIN .20 AC-FT 35310
WTR YR 1979 TOTAL 15505.06 MEAN 42.5 MAX 788 MIN .20 AC-FT 30760

07134100 BIG SANDY CREEK NEAR LAMAR, CO

LOCATION.--Lat 38°06'51", long 102°29'00", in SW¼SW¼ sec.21, T.22 S., R.45 W., Prowers County, Hydrologic Unit 11020009, on left bank 15 ft (5 m) upstream from State Highway 196, 950 ft (290 m) upstream from mouth, and 7.5 mi (12.1 km) east of Lamar.

DRAINAGE AREA.--3,248 mi² (8,412 km²).

PERIOD OF RECORD.--February 1968 to current year.

REVISED RECORDS.--WRD Colo. 1971: Drainage area.

GAGE.--Water-stage recorder and culvert control. Altitude of gage is 3,545 ft (1,080 m), from topographic map. Prior to June 30, 1977, at datum 1.00 ft (0.305 m) lower.

REMARKS.--Records good except those for winter period and those July and August, which are poor. Natural flow of stream affected by diversions above station for irrigation and return flow from irrigated areas. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--11 years, 11.9 ft³/s (0.337 m³/s), 8,620 acre-ft/yr (10.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,520 ft³/s (71.4 m³/s) Sept. 16, 1976, gage height, 8.48 ft (2.585 m), on basis of measurement of peak flow through culvert and over road; no flow Aug. 13-18, Sept. 1-15, 1976, Sept. 14-30, 1977, many days 1978, 1979.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 21, 1965, reached a stage of 9.93 ft (3.027 m) from floodmarks, discharge not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 317 ft³/s (8.98 m³/s) at 1300 May 30, gage height, 4.89 ft (1.490 m), on basis of peak flow through culvert and over road; no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.62	.95	.50	.40	2.6	2.3	2.4	16	2.0	3.0	.07
2	.00	.62	.95	.40	.40	2.5	2.5	2.3	11	.80	1.9	.00
3	.00	.55	.80	.40	.40	2.4	2.6	2.3	5.0	.11	4.6	.00
4	.00	.35	.70	.40	.40	3.3	2.9	2.4	3.0	.86	4.1	.00
5	.00	.35	.70	.40	.40	3.2	3.5	2.3	2.7	.94	1.7	.02
6	.00	.35	.60	.40	.45	2.9	3.1	2.4	2.7	16	.52	.20
7	.00	.35	.50	.40	.55	2.8	2.8	1.4	2.7	7.0	2.0	.55
8	.00	.35	.40	.40	.70	2.9	2.4	1.1	2.9	10	2.6	1.2
9	.00	.35	.30	.40	.95	2.6	2.6	.90	5.2	8.0	2.0	.95
10	.83	.35	.30	.45	1.3	2.1	2.6	.69	4.9	3.0	1.5	1.4
11	.92	.35	.30	.55	2.2	2.0	2.9	.31	3.8	1.0	1.2	.75
12	.27	.35	.30	.70	2.8	2.0	2.8	.12	3.2	.80	1.8	1.6
13	.01	.35	.35	.80	3.2	2.0	2.6	.17	2.9	.70	1.8	.95
14	.02	.35	.40	1.0	5.0	2.0	3.7	.04	2.4	1.5	.95	.95
15	.00	.35	.50	1.3	7.7	2.0	2.8	.44	1.8	2.5	1.4	.84
16	.00	.35	.60	1.8	6.9	2.0	2.6	.36	1.4	1.5	.93	.68
17	.00	.35	.70	2.1	9.6	2.0	2.2	.60	1.4	1.1	1.0	1.5
18	.00	.35	.90	2.3	5.4	2.0	3.2	.07	1.0	1.0	1.5	1.4
19	.00	.35	1.0	2.3	3.9	2.0	3.7	.00	1.0	.90	1.0	.78
20	.00	.35	1.2	2.3	4.8	2.0	4.3	.00	1.4	.80	10	.56
21	.00	.55	1.3	2.1	5.9	3.5	4.3	.00	1.7	.70	1.0	.61
22	.00	.55	1.4	1.6	7.6	5.8	2.9	.01	1.7	.70	.90	1.4
23	.00	.55	1.4	.63	6.5	4.4	2.9	.01	2.3	.70	.90	1.5
24	.00	.55	1.4	1.9	5.1	3.8	2.9	.02	1.2	.70	1.0	.55
25	.00	.55	1.2	1.2	5.0	3.3	2.7	.02	6.7	.80	1.0	1.5
26	.00	.55	1.0	.99	3.9	2.9	1.9	.26	2.5	2.0	5.0	.87
27	.00	.55	.95	.88	4.0	2.8	1.8	.62	1.2	1.5	10	.11
28	.00	.55	.90	.70	3.5	2.6	2.5	.62	1.0	1.2	5.0	.15
29	.00	.55	.90	.60	---	2.6	2.5	3.3	1.0	1.1	3.0	.18
30	.02	.75	.80	.50	---	2.5	2.2	139	2.5	1.0	1.2	.33
31	.62	---	.60	.40	---	2.3	---	43	---	1.2	.12	---
TOTAL	2.69	13.44	24.30	30.60	98.95	83.8	84.7	207.16	98.2	72.11	74.62	21.60
MEAN	.087	.45	.78	.99	3.53	2.70	2.82	6.68	3.27	2.33	2.41	.72
MAX	.92	.75	1.4	2.3	9.6	5.8	4.3	139	16	16	10	1.6
MIN	.00	.35	.30	.40	.40	2.0	1.8	.00	1.0	.11	.12	.00
AC-FT	5.3	27	48	61	196	166	168	411	195	143	148	43

CAL YR 1978 TOTAL 1068.53 MEAN 2.93 MAX 250 MIN .00 AC-FT 2120
WTR YR 1979 TOTAL 812.37 MEAN 2.23 MAX 139 MIN .00 AC-FT 1610

07137000 FRONTIER DITCH NEAR COOLIDGE, KS

LOCATION.--Lat 38°02'18", long 102°02'19", in NE¼ sec.21, T.23 S., R.43 W., Hamilton County, Kans., Hydrologic Unit 11030001, on left bank 0.3 mi (0.5 km) east of Colorado-Kansas State line, 0.5 mi (0.8 km) downstream from Holly drain diversion, 1.5 mi (2.4 km) west of Coolidge, and 2.3 mi (3.7 km) downstream from diversion from Arkansas River.

PERIOD OF RECORD.--October 1950 to current year.

REVISED RECORDS.--WSP 1731: 1951.

GAGE.--Water-stage recorders and Parshall flume. Datum of gage is 3,353.14 ft (1,022.037 m), National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. This ditch diverts water from Arkansas River in Colorado for use in Kansas. These records and records for Arkansas River near Coolidge (station 07137500) represent total flow of Arkansas River at the Colorado-Kansas State line.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 84 ft³/s (2.38 m³/s) Aug. 1, 1975; no flow for many days each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	1.7	.92	.00	.00	.00	.00	7.9	4.5	22	25	18
2	1.5	1.5	.63	.00	.00	.00	.00	7.7	8.7	18	25	17
3	1.6	1.4	1.0	.00	.00	.00	.00	9.0	15	8.7	24	20
4	1.2	1.2	.70	.00	.00	.00	.00	7.9	15	7.9	21	18
5	1.1	1.0	.00	.00	.00	.00	.00	6.8	1.8	15	19	16
6	1.2	1.0	.00	.00	.00	.0U	.00	5.8	11	15	16	13
7	1.1	.92	.00	.00	.00	.00	.00	4.3	17	26	15	13
8	1.1	.92	.00	.00	.00	.00	.00	4.8	16	22	14	12
9	.81	.92	.00	.00	.00	.00	.00	4.6	17	27	16	9.5
10	.81	1.0	.00	.00	.00	.00	.00	5.6	26	28	18	9.3
11	1.1	1.0	.00	.00	.00	.00	.00	5.2	20	21	16	10
12	1.0	1.0	.00	.00	.00	.00	.00	4.6	18	19	14	11
13	.92	1.1	.00	.00	.00	.00	.00	4.6	16	13	25	13
14	.92	1.1	.00	.00	.00	.00	.00	5.0	11	41	23	14
15	1.0	1.1	.00	.00	.00	.00	.00	4.3	8.2	48	23	14
16	.92	1.1	.00	.00	.00	.00	.00	4.1	7.7	47	27	14
17	1.0	1.0	.00	.00	.00	.00	.00	4.3	11	41	35	14
18	1.4	1.0	.00	.00	.00	.00	.00	3.5	7.0	41	48	12
19	1.4	.92	.00	.00	.00	.00	.00	2.8	6.8	49	32	13
20	1.4	.92	.00	.00	.00	.00	.00	3.2	9.8	28	57	15
21	1.5	1.0	.00	.00	.00	.00	.00	3.5	4.6	33	28	13
22	2.0	1.0	.00	.00	.00	.00	.00	3.3	7.9	35	17	13
23	1.7	1.0	.00	.00	.00	.00	.00	3.9	5.6	38	14	11
24	1.7	1.0	.00	.00	.00	.00	.00	3.9	5.2	32	18	7.9
25	1.8	1.4	.00	.00	.00	.00	.00	5.8	16	30	14	7.9
26	2.3	1.2	.00	.00	.00	.00	2.4	4.3	26	22	24	7.2
27	2.5	1.0	.00	.00	.00	.00	5.1	8.2	14	18	36	7.7
28	2.5	1.0	.00	.00	.00	.00	5.6	12	8.4	18	31	7.2
29	2.5	1.0	.00	.00	---	.00	8.2	9.0	26	22	16	6.8
30	3.3	.92	.00	.00	---	.00	8.2	32	32	28	15	6.8
31	2.1	---	.00	.00	---	.00	---	36	---	24	21	---
TOTAL	47.08	32.32	3.25	.00	.00	.00	29.50	227.9	393.2	837.6	727	364.3
MEAN	1.52	1.08	.10	.000	.000	.000	.98	7.35	13.1	27.0	23.5	12.1
MAX	3.3	1.7	1.0	.00	.00	.00	8.2	36	32	49	57	20
MIN	.81	.92	.00	.00	.00	.00	.00	2.8	1.8	7.9	14	6.8
AC-FT	93	64	6.4	.00	.00	.00	59	452	780	1660	1440	723

CAL YR 1978 TOTAL 2978.08 MEAN 8.16 MAX 61 MIN .00 AC-FT 5910
WTR YR 1979 TOTAL 2662.15 MEAN 7.29 MAX 57 MIN .00 AC-FT 5280

07137500 ARKANSAS RIVER NEAR COOLIDGE, KS

LOCATION.--Lat 38°01'34", long 102°00'41", in NE¼NW¼ sec.26, T.23 S., R.43 W., Hamilton County, KS, Hydrologic Unit 11030001, on right bank at downstream side of bridge, 1.0 mi (1.6 km) south of Coolidge, and 1.9 mi (3.1 km) downstream from Colorado-Kansas State line.

DRAINAGE AREA.--25,410 mi² (65,812 km²), of which 1,708 mi² (4,424 km²) is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May to Ocober 1903, March to May 1921, October 1950 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1341: 1903, drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,330.84 ft (1,015.240 m), National Geodetic Vertical Datum of 1929. May 5 to Oct. 31, 1903, nonrecording gage, and Mar. 1 to May 31, 1921, water-stage recorder at present site at different datums. Oct. 1, 1950, to Mar. 31, 1966, water-stage recorder at site 0.3 mi (0.5 km) upstream at datum 3.00 ft (0.914 m) higher.

REMARKS.--Records good except those for winter period, which are poor. Combined flow of river and Frontier ditch (station 07137000) represents entire flow that enters Kansas. Flow regulated by John Martin Reservoir (station 07130000) since Oct. 1948. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals, diversions for irrigation of about 500,000 acres (2,020 km²), and return flow from irrigated areas.

AVERAGE DISCHARGE.--29 years (water years 1951-79), 183 ft³/s (5.183 m³/s), 132,600 acre-ft/yr (163 hm³/yr), subsequent to completion of John Martin Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 158,000 ft³/s (4,470 m³/s) June 17, 1965, gage height, 14.8 ft (4.51 m), present site and datum, from floodmarks, from rating curve extended above 13,000 ft³/s (370 m³/s), on basis of slope-area measurement of peak flow; no flow for many days in 1903, 1954, 1960.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 780 ft³/s (22.1 m³/s) May 31, gage height, 4.30 ft (1.311 m); minimum daily, 0.60 ft³/s (0.017 m³/s) Sept. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	.80	2.6	3.0	5.4	9.6	8.7	3.5	143	18	23	4.5
2	2.0	1.0	2.7	2.0	5.0	9.6	8.4	3.8	194	17	27	4.1
3	2.0	.98	3.0	1.5	4.5	10	8.7	3.6	304	14	15	4.5
4	2.4	1.0	3.4	1.5	4.5	9.8	9.0	3.2	503	13	11	4.1
5	2.4	1.0	3.5	1.3	4.5	8.4	7.9	3.5	239	121	9.8	4.5
6	2.5	1.0	3.4	1.5	4.5	8.6	7.5	3.2	107	67	11	4.1
7	2.5	1.0	3.2	1.5	4.5	9.4	7.1	2.9	58	33	12	5.4
8	2.2	1.0	3.0	1.5	4.0	8.6	7.6	2.9	48	27	5.9	6.5
9	1.9	1.0	2.8	1.5	5.0	8.4	8.0	3.3	61	35	3.4	4.5
10	3.2	1.0	2.6	1.5	5.5	8.6	8.5	4.0	128	37	3.1	3.4
11	2.2	1.0	2.5	1.5	5.4	8.4	9.5	4.0	78	26	4.1	2.6
12	2.1	1.0	3.0	1.5	5.6	7.9	10	3.6	62	23	4.1	2.0
13	2.1	1.0	3.5	1.6	5.7	7.2	11	2.6	50	19	5.9	2.2
14	1.7	1.1	4.0	1.6	6.0	6.6	11	2.5	34	112	8.4	5.4
15	1.5	1.3	4.5	1.7	5.6	6.5	11	2.3	26	179	12	3.7
16	1.6	1.3	5.0	1.8	5.6	7.0	13	2.2	23	213	11	4.1
17	3.6	1.3	5.0	2.0	5.2	6.4	13	2.0	15	265	6.5	2.6
18	2.2	1.3	5.3	2.5	4.5	5.9	13	2.2	11	303	12	2.2
19	1.3	1.1	5.1	3.5	3.5	5.5	14	2.5	9.5	363	5.9	1.6
20	.92	.70	5.0	4.5	4.3	5.7	16	3.2	9.6	226	42	3.1
21	1.4	2.8	6.3	5.4	6.0	9.2	15	3.5	8.6	189	25	11
22	2.3	2.4	4.5	5.7	8.7	11	11	2.8	7.8	86	19	11
23	1.8	2.2	4.5	5.8	7.4	9.0	9.5	2.4	6.2	53	17	8.4
24	1.4	2.2	4.5	5.8	8.3	8.4	8.5	2.4	7.8	43	15	3.4
25	3.7	2.5	4.5	5.1	8.5	8.6	11	2.3	19	37	11	1.1
26	2.5	2.6	4.5	5.2	7.2	8.2	9.3	2.2	30	35	11	.90
27	1.5	2.6	4.5	5.0	9.5	9.1	4.5	2.1	16	29	19	.70
28	1.2	2.6	4.6	5.0	11	11	3.9	3.6	12	29	24	.60
29	.89	2.6	4.0	5.0	---	9.5	3.8	5.0	49	25	19	1.6
30	1.1	2.6	3.5	5.0	---	8.3	3.4	132	29	18	12	1.3
31	.87	---	3.5	5.4	---	10	---	496	---	16	9.1	---
TOTAL	60.98	45.98	122.0	97.4	165.4	260.4	282.8	715.3	2288.5	2671	414.2	115.10
MEAN	1.97	1.53	3.94	3.14	5.91	8.40	9.43	23.1	76.3	86.2	13.4	3.84
MAX	3.7	2.8	6.3	5.8	11	11	16	496	503	363	42	11
MIN	.87	.70	2.5	1.3	3.5	5.5	3.4	2.0	6.2	13	3.1	.60
AC-FT	121	91	242	193	328	517	561	1420	4540	5300	822	228

CAL YR 1978 TOTAL 18897.86 MEAN 51.8 MAX 2880 MIN .70 AC-FT 37480
WTR YR 1979 TOTAL 7239.06 MEAN 19.8 MAX 503 MIN .60 AC-FT 14360

07137500 ARKANSAS RIVER NEAR COOLIDGE, KS--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1963 to September 1968, October 1969 to September 1973, April 1975 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: November 1963 to September 1968, January 1976 to current year.
WATER TEMPERATURES: November 1963 to September 1968, January 1976 to current year.

INSTRUMENTATION.--Water-quality monitor since January 1976.

REMARKS.--Daily maximum and minimum specific-conductance data available in district office.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 6,800 micromhos Mar. 29, 1978; minimum daily, 454 micromhos June 18, 1965.
WATER TEMPERATURES: Maximum, 34.0°C July 9, 1967; minimum, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 5,690 micromhos Nov. 1; minimum daily, 1,090 micromhos May 31.
WATER TEMPERATURES: Maximum daily, 28.0°C July 15; minimum daily, 0.0°C on several days during winter period.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)
OCT											
26...	1100	2.5	4250	8.3	7.0	11	11.1	90	<1	1500	1200
NOV											
14...	1100	2.4	4150	7.9	2.0	.60	11.7	K8	100	1600	1400
DEC											
05...	1100	3.6	4100	8.1	1.0	9.8	12.2	K10	390	1700	1500
FEB											
01...	1140	5.4	7800	7.7	.5	14	11.5	K12	89	--	--
14...	1200	6.1	4200	8.1	9.0	25	10.4	K2	230	1300	1200
MAR											
07...	1100	9.6	4700	8.2	10.0	290	10.2	K37	130	1700	1600
APR											
10...	1045	8.1	4600	7.8	12.0	52	11.0	130	K40	1500	1400
MAY											
15...	1115	2.5	4600	8.1	18.0	2.9	10.1	56	220	1700	1500
JUN											
26...	1200	19	1810	8.2	26.0	360	8.1	E1000	4700	650	510
JUL											
30...	1130	17	3100	8.0	23.0	23	6.4	1700	--	1200	1000
AUG											
28...	1205	26	2350	8.3	24.0	480	9.1	620	5400	850	690
SEP											
21...	1330	12	3200	8.5	17.5	.90	11.1	410	660	0	0

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)
OCT										
26...	310	170	530	6.0	15	--	--	240	2200	190
NOV										
14...	410	150	550	5.9	10	250	0	200	2500	32
DEC										
05...	300	220	560	6.0	14	280	0	200	2300	210
FEB										
01...	--	--	--	--	--	320	0	250	2400	220
14...	330	120	600	7.2	12	290	0	160	2200	190
MAR										
07...	380	180	610	6.5	14	360	0	85	2600	180
APR										
10...	320	180	610	6.8	10	270	0	190	2400	200
MAY										
15...	400	170	650	6.9	12	270	0	218	2500	230
JUN										
26...	160	60	200	3.4	8.8	210	0	140	840	57
JUL										
30...	270	130	420	5.3	13	280	0	210	1400	120
AUG										
28...	200	86	270	4.0	9.9	270	0	160	1200	72
SEP										
21...	--	--	380	--	10	210	5	140	1700	100

K BASED ON NON-IDEAL COLONY COUNT.
E ESTIMATED.

07137500 ARKANSAS RIVER NEAR COOLIDGE, KS--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	FLUORIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)
OCT										
26...	.7	16	3580	27.5	2.3	.00	.62	.62	.69	2.9
NOV										
14...	.5	12	3790	25.6	1.1	.01	.60	.61	.69	1.7
DEC										
05...	.6	8.8	3730	41.0	.87	.01	.66	.67	.56	1.5
FEB										
01...	.6	15	--	65.2	1.2	.07	.54	.61	.51	1.8
14...	.5	13	3560	68.1	.88	.08	.49	.57	.43	1.5
MAR										
07...	.7	12	4030	113	.99	.10	1.3	1.4	.52	2.4
APR										
10...	.6	9.4	3840	94.5	.65	.11	.53	.64	--	1.3
MAY										
15...	.6	6.0	4100	30.1	.25	.06	.22	.28	.29	.53
JUN										
26...	.7	9.8	1420	80.5	.72	.11	2.3	2.4	.51	3.1
JUL										
30...	.8	14	2490	136	1.0	.03	.89	.92	.11	1.9
AUG										
28...	.7	10	1960	142	.79	.03	1.3	1.3	.52	2.1
SEP										
21...	.8	9.5	2290	75.4	.28	.06	1.6	1.7	1.1	2.0

DATE	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	PHYTO- PLANK- TON, TOTAL (CELLS PER ML)	PERI- PHYTON BIOMASS ASH WEIGHT G/SQ M	PERI- PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	BIOMASS CHLORO- PHYLL RATIO PERI- PHYTON (UNITS)	CHLOR-A PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2)	CHLOR-B PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2)
OCT										
26...	.010	.010	4.4	--	--	10.9	12.0	--	4.56	1.04
NOV										
14...	.010	.010	--	1640	420	6.14	6.85	--	4.29	.000
DEC										
05...	.000	.000	5.0	--	--	--	--	--	--	--
FEB										
01...	.020	.000	4.1	--	--	--	--	--	--	--
14...	.040	.020	--	2100	330	--	--	--	--	--
MAR										
07...	.000	.010	10	--	--	--	--	--	--	--
APR										
10...	.010	.000	--	--	--	6.14	6.85	--	.690	.000
MAY										
15...	.010	.010	--	19000	440	--	--	--	--	--
JUN										
26...	.410	.000	16	--	14000	--	--	--	--	--
JUL										
30...	.090	.030	7.6	--	--	--	--	--	--	--
AUG										
28...	.080	.010	--	--	63000	16.0	16.9	625	1.44	.240
SEP										
21...	.100	.010	9.1	--	140000	--	--	--	--	--

07137500 ARKANSAS RIVER NEAR COOLIDGE, KS--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)
NOV 14...	1	0	0	0	3	1	0	0	0
FEB 14...	1	1	0	0	0	0	0	10	2
MAY 15...	1	1	0	100	0	0	20	10	0
AUG 28...	2	1	100	0	0	0	20	10	7

DATE	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
NOV 14...	0	2	1	140	20	31	13	240	250
FEB 14...	0	4	2	830	20	13	7	230	180
MAY 15...	0	5	1	130	20	18	0	100	80
AUG 28...	0	14	1	14000	10	24	0	440	30

DATE	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
NOV 14...	.0	.0	23	18	0	0	20	20
FEB 14...	.0	.0	17	17	1	1	40	30
MAY 15...	.0	.1	16	17	0	0	30	20
AUG 28...	.1	.0	12	13	0	0	60	10

07137500 ARKANSAS RIVER NEAR COOLIDGE, KS--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	PCB, TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	ALDRIN, TOTAL (UG/L)	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL (UG/L)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL (UG/L)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL (UG/L)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)
NOV										
14...	ND	--	ND	ND	ND	ND	ND	ND	ND	ND
FEB										
14...	ND	--	ND	--	ND	--	ND	--	ND	--
MAY										
15...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG										
28...	--	--	ND	--	ND	--	ND	--	ND	--

DATE	DDT, TOTAL (UG/L)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOTAL (UG/L)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	PARATHION, TOTAL (UG/L)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL (UG/L)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TOTAL TRITHION (UG/L)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
NOV										
14...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB										
14...	ND	--	ND	--	ND	--	ND	--	ND	--
MAY										
15...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG										
28...	ND	--	ND	--	ND	--	ND	--	ND	--

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5100	5690				4800	4620	4080	1780	2440	3490	3360
2	5090	5540				4800	4640	4000	1560	2910	3070	3300
3	4380	5450				4750	4660	3950	1520	3490	3260	3320
4	3780	5380				4700	4630	4000	1480	3870	3620	3340
5	---	5500				4650	4600	4040	1500	3120	3740	3360
6	---	5380				4680	4600	4050	1730	1670	3600	3380
7	---	5290				4700	4620	4050	1910	2050	3580	3100
8	---	5250				4730	4640	4080	1940	2160	4200	2800
9	---	5220				4760	4620	4080	1610	2170	4560	2950
10	---	5310				4800	4600	4070	1230	2120	4400	3100
11	---	5210				4840	4580	4050	1760	2110	4100	3250
12	---	5190				4890	4560	4090	1860	2130	3920	3400
13	---	5150				4940	4600	4130	1970	2150	3820	3420
14	---	---				4980	4640	4100	2250	2160	3500	3000
15	---	---				5020	4680	4090	2540	1990	3200	3100
16	---	---				5050	4660	4100	2700	1320	3190	3050
17	---	---				5080	4680	4120	3270	1360	3360	3200
18	---	---				5010	4700	4100	3620	1170	2930	3400
19	---	---				4980	4680	4080	4050	1180	3340	3600
20	---	---				4960	4660	4060	3780	1310	2180	3490
21	---	---				4920	4310	4040	3880	1530	2600	3380
22	---	---				4710	3910	4020	3980	1700	2960	3870
23	---	---				4550	3890	4000	4160	1880	3100	3900
24	---	---				4560	3940	3980	3950	2060	3240	4590
25	---	---				4580	4050	3960	2900	2240	3000	4900
26	---	---				4630	4060	3940	1810	2430	2800	5000
27	---	---				4580	4060	3920	3040	2620	2640	5100
28	---	---				4440	4080	3300	3510	2800	2380	5200
29	---	---				4420	4090	2700	2340	2980	2440	4950
30	---	---				4620	4110	2000	2070	3160	2910	5060
31	---	---				4600	---	1090	---	3820	3030	---

07137500 ARKANSAS RIVER NEAR COOLIDGE, KS--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1978 TO SEPTEMBER 1979

DATE	NOV 14,78	FEB 14,79	MAY 15,79	JUN 26,79	AUG 28,79	SEP 21,79
TIME	1100	1200	1115	1200	1205	1330
TOTAL CELLS/ML	420	330	440	14000	63000	140000
DIVERSITY: DIVISION	0.0	1.6	0.0	0.7	1.6	1.5
.CLASS	0.0	1.6	0.0	0.7	1.6	1.5
..ORDER	0.3	1.7	0.7	1.6	2.2	2.3
...FAMILY	1.7	2.1	1.1	2.2	2.3	2.4
....GENUS	2.1	2.1	1.1	2.7	2.5	2.7

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)												
.CHLOROPHYCEAE												
..CHLOROCOCCALES												
...MICRACTINIACEAE												
....GOLENKINIA	--	-	--	-	--	-	130	1	--	-	--	-
...OOCYSTACEAE												
....ANKISTRODESMUS	--	-	--	-	--	-	260	2	3600	6	2800	2
....DICTYOSPHAERIUM	--	-	--	-	--	-	--	-	--	-	2200	2
....OOCYSTIS	--	-	--	-	--	-	--	-	3200	5	--	-
....TREUBARIA	--	-	--	-	--	-	--	-	--	-	1100	1
...SCENEDESMACEAE												
....ACTINASTRUM	--	-	--	-	--	-	--	-	1600	3	--	-
....SCENEDESMUS	--	-	--	-	--	-	1300	9	--	-	7800	5
..VOLVOCALES												
...CHLAMYDOMONADACEAE												
....CHLAMYDOMONAS	--	-	--	-	--	-	130	1	4000	6	12000	8
CHRYSOPHYTA												
.BACILLARIOPHYCEAE												
..CENTRALES												
...COSCINODISCACEAE												
....CYCLOTELLA	22	5	5	2	78#	18	1300	9	20000#	32	41000#	28
....MELOSIRA	--	-	--	-	--	-	3000#	21	--	-	6700	5
....STEPHANODISCUS	--	-	--	-	--	-	900	7	--	-	--	-
..PENNALES												
...ACHNANTHACEAE												
....ACHNANTHES	89#	21	--	-	--	-	--	-	--	-	--	-
...NAVICULACEAE												
....CALONEIS	44	11	--	-	--	-	--	-	--	-	--	-
....NAVICULA	150#	37	110#	32	39	9	3000#	21	400	1	1100	1
...NITZSCHIACEAE												
....NITZSCHIA	110#	26	45	14	320#	74	3600#	26	11000#	17	27000#	19
CRYPTOPHYTA (CRYPTOMONADS)												
.CRYPTOPHYCEAE												
..CRYPTOMONADALES												
...CRYPTOCHRYSIDACEAE												
....CHROOMONAS	--	-	--	-	--	-	--	-	--	-	*	0
...CRYPTOMONADACEAE												
....CRYPTOMONAS	--	-	10	3	--	-	130	1	--	-	*	0
CYANOPHYTA (BLUE-GREEN ALGAE)												
.CYANOPHYCEAE												
..CHROOCOCCALES												
...CHROOCOCCACEAE												
....ANACYSTIS	--	-	--	-	--	-	--	-	--	-	2800	2
..HORMOGONALES												
...NOSTOCACEAE												
....ANABAENA	--	-	100#	30	--	-	--	-	--	-	--	-
...OSCILLATORIACEAE												
....OSCILLATORIA	--	-	--	-	--	-	--	-	18000#	29	39000#	27
EUGLENOPHYTA (EUGLENOIDS)												
.EUGLENOPHYCEAE												
..EUGLENALES												
...EUGLENACEAE												
....TRACHELOMONAS	--	-	65#	20	--	-	130	1	800	1	--	-

NOTE: # - DOMINANT ORGANISM, EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

RIO GRANDE BASIN

08213500 RIO GRANDE AT THIRTYMILE BRIDGE, NEAR CREEDE, CO

LOCATION.--Lat 37°43'29", long 107°15'18", in NE¼ sec.13, T.40 N., R.4 W., Hinsdale County, Hydrologic Unit 13010001, on right bank 70 ft (21 m) downstream from bridge, 500 ft (150 m) upstream from Squaw Creek, 0.8 mi (1.3 km) downstream from Rio Grande Reservoir, and 20 mi (32 km) southwest of Creede.

DRAINAGE AREA.--163 mi² (422 km²).

PERIOD OF RECORD.--June 1909 to September 1923, May 1925 to current year. No winter records 1910, 1926. Monthly discharge only for some periods, published in WSP 1312.

GAGE.--Water-stage recorder. Altitude of gage is 9,300 ft (2,835 m), from topographic map. See WSP 1712 or 1732 for history of changes prior to Oct. 1, 1934.

REMARKS.--Records good. Flow regulated by Rio Grande Reservoir, capacity, 51,110 acre-ft (63.0 hm³) since 1912. Natural flow of stream affected by transmountain diversions from Colorado River basin to drainage area above station through Weminuche Pass and Pine River-Weminuche Pass ditches (see elsewhere in this report). No known diversions above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--66 years (water years 1911-23, 1927-79), 211 ft³/s (5.976 m³/s), 152,900 acre-ft/yr (189 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,500 ft³/s (212 m³/s) June 28, 1927, gage height, 7.03 ft (2.143 m), present datum, from rating curve extended above 1,200 ft³/s (34 m³/s); minimum daily, 0.10 ft³/s (0.003 m³/s) Nov. 2-4, 1960.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,450 ft³/s (41.1 m³/s) at 0130 June 8, gage height, 3.71 ft (1.131 m); minimum daily, 3.8 ft³/s (0.108 m³/s) Nov. 5-10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	4.0	4.0	5.0	5.5	6.0	6.5	502	1380	648	270	89
2	37	4.0	4.0	5.0	5.5	6.0	6.5	533	1350	655	242	89
3	37	4.0	4.0	5.0	5.5	6.0	6.5	540	1330	662	223	89
4	37	4.0	4.0	5.0	5.5	6.0	6.5	526	1310	559	214	88
5	37	3.8	4.0	5.0	5.5	6.0	6.5	514	1320	678	252	70
6	37	3.8	4.0	5.0	5.5	6.0	6.5	546	1300	688	282	55
7	37	3.8	4.0	5.0	5.5	6.0	6.5	592	1390	385	278	55
8	37	3.8	4.0	5.0	5.5	6.0	6.5	390	1440	427	252	55
9	37	3.8	4.0	5.0	5.5	6.0	6.5	294	1420	533	194	55
10	37	3.8	4.0	5.0	5.5	6.0	6.5	290	1380	514	172	55
11	37	4.0	4.0	5.0	5.5	6.0	7.0	286	1350	444	170	55
12	25	4.0	4.0	5.0	5.5	6.0	7.0	282	1340	460	170	55
13	19	4.0	4.0	5.0	5.5	6.0	7.0	256	1380	472	170	55
14	182	4.0	4.0	5.0	5.5	6.0	7.0	249	954	641	170	56
15	302	4.0	4.0	5.0	5.5	6.0	7.0	252	762	834	170	56
16	319	4.0	4.5	5.0	5.5	6.0	7.2	270	786	930	177	56
17	314	4.0	4.5	5.0	5.5	6.0	7.2	332	954	1070	211	56
18	310	4.0	4.5	5.0	5.5	6.0	7.2	395	1240	1120	238	56
19	306	4.0	4.5	5.0	5.5	6.0	7.2	484	1350	970	238	56
20	302	4.0	4.5	5.0	5.5	6.0	7.2	599	874	786	238	56
21	229	4.0	4.5	5.0	5.5	6.0	7.6	738	514	627	217	56
22	211	4.0	4.5	5.0	5.5	6.0	264	634	449	478	185	56
23	208	4.0	4.5	5.0	5.5	6.0	422	834	599	432	167	56
24	205	4.0	4.5	5.0	5.5	6.0	422	979	700	410	147	56
25	202	4.0	4.5	5.0	5.5	6.0	422	692	746	380	123	56
26	199	4.0	4.5	5.0	5.5	6.0	416	1070	842	365	121	56
27	120	4.0	4.5	5.0	5.5	6.0	427	1190	882	365	121	56
28	4.6	4.0	4.5	5.0	5.5	6.0	478	1340	738	337	121	47
29	4.2	4.0	4.5	5.0	---	6.0	496	1390	620	319	100	40
30	4.2	4.0	4.5	5.0	---	6.0	496	1420	634	319	89	40
31	4.0	---	4.5	5.0	---	6.0	---	1420	---	298	89	---
TOTAL	3877.0	118.8	132.0	155.0	154.0	186.0	3986.6	19839	31394	17806	5811	1776
MEAN	125	3.96	4.26	5.00	5.50	6.00	133	640	1046	574	187	59.2
MAX	319	4.0	4.5	5.0	5.5	6.0	496	1420	1440	1120	282	89
MIN	4.0	3.8	4.0	5.0	5.5	6.0	6.5	249	449	298	89	40
AC-FT	7690	236	262	307	305	369	7910	39350	62270	35320	11530	3520

CAL YR 1978 TOTAL 62571.7 MEAN 171 MAX 1650 MIN 2.6 AC-FT 124100
WTR YR 1979 TOTAL 85235.4 MEAN 234 MAX 1440 MIN 3.8 AC-FT 169100

NOTE.--NO GAGE-HEIGHT RECORD NOV. 6 TO APR. 19.

08214500 NORTH CLEAR CREEK BELOW CONTINENTAL RESERVOIR, CO

LOCATION.--Lat 37°53'18", long 107°12'10", in NE¼SW¼ sec.21, T.42 N., R.3 S., Hinsdale County, Hydrologic Unit 13010001, on left bank 100 ft (30 m) downstream from bridge, 1,000 ft (300 m) downstream from Continental Reservoir, and 15 mi (24 km) west of Creede.

DRAINAGE AREA.--51.7 mi^2 (134 km^2).

PERIOD OF RECORD.--May 1929 to current year. Monthly discharge only for some periods, published in WSP 1312. Prior to October 1960, published as Clear Creek below Continental Reservoir.

REVISED RECORDS.--WSP 1008: Drainage area.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 10,200 ft (3,109 m), from topographic map. Prior to Oct. 2, 1951, at site 150 ft (46 m) upstream at different datum.

REMARKS.--Records good except those for period of no gage-height record, which are fair. Flow regulated by Continental Reservoir, capacity, 26,720 acre-ft (32.9 hm^3). No diversion above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--50 years, 30.2 ft^3/s (0.855 m^3/s), 21,880 acre-ft/yr (27.0 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 362 ft^3/s (10.3 m^3/s) May 8, 1952, gage height, 3.66 ft (1.116 m), from rating curve extended above 120 ft^3/s (3.4 m^3/s); no flow June 22, 23, 1935.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 269 ft^3/s (7.62 m^3/s) at 2030 Oct. 18, gage height, 2.61 ft (0.796 m); minimum daily, 1.7 ft^3/s (0.048 m^3/s) on many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.3	1.7	1.7	1.7	1.8	1.9	2.0	105	144	105	34	16
2	6.3	1.7	1.7	1.7	1.8	1.9	2.0	119	191	105	4.9	16
3	6.3	1.7	1.7	1.7	1.8	1.9	2.0	128	213	97	10	16
4	6.3	1.7	1.7	1.7	1.8	1.9	2.0	150	217	90	18	16
5	5.8	1.7	1.7	1.7	1.8	1.9	2.0	157	227	79	20	16
6	5.0	1.7	1.7	1.7	1.8	1.9	2.0	140	229	67	20	16
7	5.0	1.7	1.7	1.7	1.8	1.9	2.0	102	92	61	23	14
8	5.0	1.7	1.7	1.7	1.8	1.9	2.0	72	10	60	26	12
9	5.0	1.7	1.7	1.7	1.8	1.9	2.0	73	10	55	23	12
10	5.0	1.7	1.7	1.7	1.8	1.9	2.0	80	74	52	21	12
11	5.2	1.7	1.7	1.7	1.8	1.9	2.1	80	183	52	21	12
12	85	1.7	1.7	1.7	1.8	1.9	2.1	78	227	52	21	12
13	175	1.7	1.7	1.7	1.8	1.9	2.1	73	225	52	20	12
14	215	1.7	1.7	1.7	1.8	1.9	2.1	71	225	51	20	12
15	234	1.7	1.7	1.7	1.8	1.9	2.1	80	217	102	21	12
16	242	1.7	1.7	1.7	1.8	1.9	2.2	117	211	171	22	12
17	234	1.7	1.7	1.7	1.8	1.9	2.2	130	195	232	25	12
18	242	1.7	1.7	1.7	1.8	1.9	2.2	146	173	225	25	12
19	250	1.7	1.7	1.7	1.8	1.9	2.2	163	159	205	23	12
20	240	1.7	1.7	1.7	1.8	1.9	2.2	177	152	201	22	12
21	100	1.7	1.7	1.7	1.8	1.9	2.3	183	144	197	22	12
22	21	1.7	1.7	1.7	1.8	1.9	2.3	195	131	205	22	12
23	36	1.7	1.7	1.7	1.8	1.9	2.3	199	117	205	20	12
24	36	1.7	1.7	1.7	1.8	1.9	23	219	117	203	19	13
25	30	1.7	1.7	1.7	1.8	1.9	52	227	116	197	16	13
26	28	1.7	1.7	1.7	1.8	1.9	52	221	116	189	15	13
27	8.4	1.7	1.7	1.7	1.8	1.9	52	227	119	187	14	13
28	1.7	1.7	1.7	1.7	1.8	1.9	52	236	117	185	13	13
29	1.7	1.7	1.7	1.7	---	1.9	52	252	117	185	13	13
30	1.7	1.7	1.7	1.7	---	1.9	72	142	110	90	13	13
31	1.7	---	1.7	1.7	---	1.9	---	102	---	52	14	---
TOTAL	2244.4	51.0	52.7	52.7	50.4	58.9	403.4	4452	4578	4009	600.9	393
MEAN	72.4	1.70	1.70	1.70	1.80	1.90	13.4	144	153	129	19.4	13.1
MAX	250	1.7	1.7	1.7	1.8	1.9	72	252	229	232	34	16
MIN	1.7	1.7	1.7	1.7	1.8	1.9	2.0	71	10	51	4.9	12
AC-FT	4450	101	105	105	100	117	800	8830	9080	7950	1190	780

CAL YR 1978 TOTAL 6775.4 MEAN 18.6 MAX 250 MIN 1.1 AC-FT 13440
WTR YR 1979 TOTAL 16946.4 MEAN 46.4 MAX 252 MIN 1.7 AC-FT 33610

NOTE.--NO GAGE-HEIGHT RECORD OCT. 22 TO APR. 24.

08216500 WILLOW CREEK AT CREEDE, CO

LOCATION.--Lat 37°51'22", long 106°55'37", in SE¼ sec.25, T.42 N., R.1 W. (projected), Mineral County, Hydrologic Unit 13010001, on left bank at north city limits of Creede, 8 ft (2 m) upstream from entrance to paved channel just downstream from Windy Gulch, 0.5 mi (0.8 km) downstream from confluence of East and West Willow Creeks, and 2.6 mi (4.2 km) upstream from mouth.

DRAINAGE AREA.--35.3 mi² (91.4 km²).

PERIOD OF RECORD.--May 1951 to current year.

REVISED RECORDS.--WSP 1712: 1955, 1956(M).

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 8,880 ft (2,707 m), from topographic map. Prior to Sept. 2, 1953, at site 17 ft (5 m) upstream at present datum.

REMARKS.--Records good except those for period of no gage-height record, which are poor. Diversions above station for municipal supply of Creede. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--28 years, 21.9 ft³/s (0.620 m³/s), 15,870 acre-ft/yr (19.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 430 ft³/s (12.2 m³/s) June 5, 1957, gage height, 4.14 ft (1.262 m); maximum gage height, 4.16 ft (1.268 m) May 23, 1958; minimum daily discharge, 0.2 ft³/s (0.006 m³/s) Mar. 25, 1956, probably caused by snowslide upstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 120 ft³/s (3.4 m³/s), and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
May 29	2100	284	8.04	3.83	1.167	June 14	2000	*330	9.35	4.06	1.237
June 6	2100	*330	9.35	4.06	1.237						

Minimum daily discharge, 3.7 ft³/s (0.105 m³/s) Jan. 1-21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.2	7.3	6.0	3.7	3.8	5.0	4.3	59	181	152	30	16
2	5.9	6.8	5.9	3.7	3.8	5.4	5.0	59	180	142	31	16
3	6.3	7.8	5.8	3.7	3.8	5.5	5.2	58	187	134	30	16
4	5.9	7.2	5.7	3.7	3.8	5.5	5.4	55	191	126	27	15
5	5.6	6.6	5.6	3.7	3.8	5.5	5.4	63	212	113	26	14
6	5.6	6.5	5.4	3.7	3.8	5.5	5.5	75	260	108	27	15
7	5.6	6.1	5.3	3.7	3.8	5.5	6.0	81	267	106	25	14
8	5.3	6.6	5.2	3.7	3.8	5.5	7.1	71	240	102	24	14
9	5.3	6.8	5.0	3.7	3.8	5.5	8.2	59	190	96	24	14
10	5.0	6.2	4.8	3.7	3.8	5.4	6.7	48	156	88	25	13
11	5.0	7.3	4.5	3.7	3.8	5.3	6.1	41	161	82	23	13
12	5.0	6.7	4.4	3.7	3.9	5.3	6.5	39	196	80	21	13
13	5.0	5.9	4.2	3.7	4.0	5.3	6.4	38	238	79	22	12
14	4.7	6.5	4.1	3.7	4.1	5.3	7.4	48	279	77	24	13
15	4.7	6.5	4.0	3.7	4.2	5.3	11	71	277	72	29	12
16	4.7	6.5	4.0	3.7	4.3	5.3	17	89	269	69	28	12
17	4.7	6.5	4.0	3.7	4.4	5.3	20	95	240	66	26	11
18	4.9	6.4	4.0	3.7	4.5	5.0	30	114	200	64	26	11
19	5.0	6.3	4.0	3.7	4.5	5.0	31	143	174	59	26	11
20	4.9	6.2	4.0	3.7	4.5	4.6	29	136	166	53	25	11
21	5.8	6.2	4.0	3.7	4.5	5.0	30	146	171	52	24	11
22	7.2	6.2	4.0	3.8	4.5	4.4	36	153	176	51	24	11
23	7.6	6.2	4.0	3.8	4.5	4.4	46	163	176	44	23	11
24	7.3	6.2	4.0	3.9	4.5	4.4	52	163	167	42	22	11
25	6.9	6.1	4.0	4.0	4.6	4.8	52	162	159	40	22	10
26	5.9	6.1	4.0	4.0	4.7	5.1	48	211	156	37	21	10
27	7.4	6.1	4.0	4.0	4.8	4.7	46	239	155	35	21	10
28	7.0	6.1	4.0	4.0	5.0	4.7	50	231	148	33	19	10
29	7.5	6.1	4.0	4.0	---	4.7	52	253	142	36	17	10
30	7.9	6.1	3.9	3.9	---	4.4	55	251	136	32	18	10
31	7.5	---	3.8	3.9	---	4.2	---	211	---	31	17	---
TOTAL	183.3	194.1	139.6	117.0	117.3	156.8	690.2	3625	5850	2301	747	370
MEAN	5.91	6.47	4.50	3.77	4.19	5.06	23.0	117	195	74.2	24.1	12.3
MAX	7.9	7.8	6.0	4.0	5.0	5.5	55	253	279	152	31	16
MIN	4.7	5.9	3.8	3.7	3.8	4.2	4.3	38	136	31	17	10
AC-FT	364	385	277	232	233	311	1370	7190	11600	4560	1480	734

CAL YR 1978 TOTAL 6031.1 MEAN 16.5 MAX 120 MIN 2.2 AC-FT 11960
WTR YR 1979 TOTAL 14491.3 MEAN 39.7 MAX 279 MIN 3.7 AC-FT 28740

NOTE.--NO GAGE-HEIGHT RECORD NOV. 18 TO MAR. 15.

08217500 RIO GRANDE AT WAGONWHEEL GAP, CO

LOCATION.--Lat 37°46'01", long 106°49'51", in NW¼NE¼ sec.35, T.41 N., R.1 E., Mineral County, Hydrologic Unit 13010001, on right bank 250 ft (76 m) upstream from private bridge, 0.4 mi (0.6 km) upstream from Goose Creek, and 0.4 mi (0.6 km) west of town of Wagonwheel Gap.

DRAINAGE AREA.--780 mi² (2,020 km²).

PERIOD OF RECORD.--May 1951 to current year.

GAGE.--Water-stage recorder. Datum of gage is 8,431.26 ft (2,569.848 m), National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for winter period, which are poor. Flow regulated by Santa Maria, Rio Grande, and Continental Reservoirs, combined capacity, 121,400 acre-ft (150 hm³). Diversions above station for irrigation. Transmountain diversions to drainage area above station from Colorado River basin (see elsewhere in this report). Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--28 years, 501 ft³/s (14.19 m³/s), 363,000 acre-ft/yr (448 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,870 ft³/s (138 m³/s) July 26, 1957, gage height, 5.38 ft (1.640 m); maximum gage height, 5.84 ft (1.780 m) Sept. 6, 1970; minimum daily discharge, 46 ft³/s (1.30 m³/s) Dec. 9, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,480 ft³/s (127 m³/s) at 0400 May 30 and 0500 June 14, gage height, 5.60 ft (1.707 m); minimum daily, 65 ft³/s (1.84 m³/s) Dec. 5-13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	129	100	85	80	80	94	161	1420	3890	2390	990	343
2	128	100	82	75	80	98	137	1470	4020	2280	912	328
3	126	120	75	70	80	98	119	1510	3740	2230	799	317
4	126	120	70	70	80	98	123	1540	3660	2040	752	311
5	126	114	65	70	86	84	113	1620	3850	1900	733	306
6	125	110	65	70	80	100	112	1760	4060	2050	813	272
7	125	104	65	70	76	102	122	1880	4140	1700	821	290
8	125	101	65	70	70	96	139	1670	3990	1750	755	390
9	124	100	65	70	70	90	147	1260	3540	1730	722	384
10	115	100	65	70	70	78	156	1120	3190	1740	634	373
11	112	117	65	70	76	108	160	1010	3300	1570	641	389
12	112	144	65	70	86	88	156	948	3610	1530	787	383
13	401	107	65	70	84	98	156	880	4020	1510	727	359
14	470	84	70	75	90	98	165	923	4190	1620	658	367
15	585	95	75	80	88	96	189	1080	3510	1990	744	291
16	608	90	77	80	92	125	252	1280	3560	2090	866	274
17	609	82	84	80	88	106	351	1470	3400	2340	747	262
18	607	82	90	80	86	125	445	1740	3220	2400	767	253
19	607	83	95	80	92	150	511	2060	3100	2250	787	246
20	607	85	88	80	96	152	490	2360	2850	2050	730	247
21	596	88	86	80	92	140	477	2560	2330	1860	700	247
22	351	91	80	85	84	140	599	2870	2320	1700	599	241
23	315	87	80	90	80	130	1080	2890	2440	1530	512	236
24	335	83	75	90	84	130	1200	3150	2570	1430	489	236
25	347	82	70	90	86	130	1200	2950	2560	1370	457	234
26	305	84	70	90	94	130	1120	3640	2640	1270	434	230
27	301	89	70	90	86	130	1120	4270	2700	1240	419	230
28	193	85	80	85	94	134	1210	4190	2640	1190	401	224
29	114	85	85	80	---	146	1300	4330	2400	1170	378	204
30	110	85	85	80	---	149	1320	4280	2340	1110	350	191
31	98	---	85	80	---	142	---	3770	---	1050	370	---
TOTAL	9032	2897	2342	2420	2350	3585	14830	67901	97780	54080	20494	8658
MEAN	291	96.6	75.5	78.1	83.9	116	494	2190	3259	1745	661	289
MAX	609	144	95	90	96	152	1320	4330	4190	2400	990	390
MIN	98	82	65	70	70	78	112	880	2320	1050	350	191
AC-FT	17910	5750	4650	4800	4660	7110	29420	134700	193900	107300	40650	17170

CAL YR 1978 TOTAL 137485 MEAN 377 MAX 2660 MIN 55 AC-FT 272700
WTR YR 1979 TOTAL 286369 MEAN 785 MAX 4330 MIN 65 AC-FT 568000

08216500 GOOSE CREEK AT WAGONWHEEL GAP, CO

LOCATION.--Lat 37°45'07", long 106°49'46", in SW¼SE¼ sec.35, T.41 N., R.1 E., Mineral County, Hydrologic Unit 13010001, on left bank 0.2 mi (0.3 km) downstream from Pierce Creek, 1.0 mi (1.6 km) upstream from mouth, 1.0 mi (1.6 km) south of Wagonwheel Gap, and 8.8 mi (14.2 km) southeast of Creede.

DRAINAGE AREA.--90 mi² (230 km²), approximately.

PERIOD OF RECORD.--June 1954 to current year.

REVISED RECORDS.--WSP 1712: 1955, 1956(M).

GAGE.--Water-stage recorder. Altitude of gage is 8,460 ft (2,579 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Several small diversions above station for irrigation. Lake Humphreys, capacity, 842 acre-ft (1.04 hm³), with a fixed spillway and no gates has slight effect on flow. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--25 years, 59.0 ft³/s (1.671 m³/s), 42,750 acre-ft/yr (52.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 879 ft³/s (24.9 m³/s) Sept. 14, 1970, gage height, 4.52 ft (1.378 m), from recorded range in stage, from rating curve extended above 480 ft³/s (14 m³/s); minimum daily, 4.5 ft³/s (0.13 m³/s) Jan. 6, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1927 exceeded all other observed floods at this location, including those of October 1911 and June 18, 1949. Flood of October 1911 probably exceeded that of June 18, 1949, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 682 ft³/s (19.3 m³/s) June 16, gage height, 4.15 ft (1.265 m), only peak above base of 200 ft³/s (5.7 m³/s); minimum daily, 8.5 ft³/s (0.24 m³/s) Dec. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	14	20	12	13	15	19	126	405	528	92	41
2	13	14	19	9.0	13	18	20	136	372	462	85	40
3	12	19	18	10	14	16	20	126	386	462	81	39
4	12	18	17	11	12	14	20	123	415	395	77	37
5	12	17	20	12	14	14	20	152	451	350	72	35
6	12	14	17	13	14	16	22	163	468	350	68	34
7	12	14	11	16	14	17	28	187	562	358	68	31
8	13	14	9.5	14	16	17	34	178	550	358	68	31
9	12	14	8.5	13	15	16	39	155	456	322	64	30
10	12	15	14	15	15	16	39	144	386	292	66	30
11	13	19	15	16	13	15	32	136	376	284	64	29
12	12	21	16	17	13	18	29	130	440	276	134	28
13	12	13	17	17	15	19	29	128	522	260	81	26
14	11	13	17	13	16	19	32	136	616	253	74	32
15	12	17	16	15	18	21	42	152	610	250	106	36
16	12	18	16	17	16	19	56	166	568	242	130	35
17	11	19	16	16	16	20	76	166	580	250	101	31
18	12	19	18	18	15	19	90	175	484	225	94	31
19	11	18	19	17	14	19	94	218	425	194	90	30
20	12	19	17	16	17	20	87	284	381	184	74	31
21	14	18	15	15	16	20	87	304	395	178	66	29
22	19	16	15	14	15	19	96	358	446	163	62	25
23	18	15	15	14	14	19	120	390	484	157	59	24
24	19	15	15	13	15	19	138	386	490	149	56	24
25	20	19	15	16	14	20	126	376	484	144	54	23
26	14	16	16	16	14	20	108	440	478	130	52	23
27	14	18	16	14	16	20	108	415	534	120	51	23
28	14	16	16	12	15	21	116	400	522	118	48	23
29	14	19	16	15	---	20	123	435	512	128	44	22
30	14	20	17	13	---	20	120	456	517	116	46	22
31	14	---	15	11	---	20	---	435	---	99	45	---
TOTAL	415	501	492.0	440.0	412	566	1970	7576	14315	7797	2272	895
MEAN	13.4	16.7	15.9	14.2	14.7	18.3	65.7	244	477	252	73.3	29.8
MAX	20	21	20	18	18	21	138	456	616	528	134	41
MIN	11	13	8.5	9.0	12	14	19	123	372	99	44	22
AC-FT	823	994	976	873	817	1120	3910	15030	28390	15470	4510	1780

CAL YR 1978 TOTAL 12409.0 MEAN 34.0 MAX 218 MIN 8.5 AC-FT 24610
WTR YR 1979 TOTAL 37651.0 MEAN 103 MAX 616 MIN 8.5 AC-FT 74680

NOTE.--NO GAGE-HEIGHT RECORD DEC. 21 TO MAR. 21.

08219500 SOUTH FORK RIO GRANDE AT SOUTH FORK, CO

LOCATION.--Lat 37°39'25", long 106°38'55", in SW¼NE¼ sec.3, T.39 N., R.3 E., Rio Grande County, Hydrologic Unit 13010001, on left bank near U.S. Highway 160, 700 ft (210 m) downstream from Church Creek, 0.8 mi (1.3 km) southwest of village of South Fork, and 1.4 mi (2.3 km) upstream from mouth.

DRAINAGE AREA.--216 mi^2 (559 km^2).

PERIOD OF RECORD.--August 1910 to September 1922, May 1936 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 898: 1911(M). WSP 1312: 1912, 1944(M). WSP 1632: 1956-58(P).

GAGE.--Water-stage recorder. Datum of gage is 8,221.79 ft (2,506.002 m), National Geodetic Vertical Datum of 1929. Aug. 9, 1910, to Mar. 28, 1915, nonrecording gage, and Mar. 29, 1915, to Sept. 30, 1922, water-stage recorder, at bridges 1 mi (1.6 km) downstream at different datums.

REMARKS.--Records good except those for winter period, which are poor. Transmountain diversions from Colorado River basin to drainage area above station through Treasure Pass ditch (see elsewhere in this report). Natural flow of stream affected by a few small diversions for irrigation, slight regulation by Beaver Creek Reservoir, capacity, 4,760 acre-ft (5.87 hm^3), and several smaller storage reservoirs. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--55 years (water years 1911-22, 1937-79), 209 ft^3/s (5.919 m^3/s), 151,400 acre-ft/yr (187 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,000 ft^3/s (227 m^3/s) Oct. 5, 1911, gage height, 9.7 ft (2.96 m), from floodmarks, present site and datum, from rating curve extended above 1,500 ft^3/s (42 m^3/s); minimum daily, 10 ft^3/s (0.28 m^3/s) Jan. 6, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 5, 1911, exceeded all other observed floods at this location since at least 1873. Flood of June 29, 1927, reached a stage about 1 ft (0.3 m) lower than that of Oct. 5, 1911, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 900 ft^3/s (25 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
June 7	0300	2,540	71.9	6.47	1.972	June 15	2330	*2,690	76.2	6.59	2.009

Minimum daily discharge, 24 ft^3/s (0.68 m^3/s) Nov. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	25	39	30	34	42	80	581	1630	1570	179	75
2	34	24	39	26	34	46	80	640	1510	1380	163	72
3	30	36	38	28	35	45	76	600	1650	1240	153	66
4	27	40	37	30	32	44	78	540	1760	1100	139	60
5	26	39	38	32	34	43	80	635	1780	960	129	57
6	26	34	39	35	36	44	104	760	2070	924	125	56
7	26	29	29	32	36	44	137	820	2350	918	125	54
8	26	27	27	30	38	46	181	730	2300	894	125	53
9	28	28	25	29	37	48	181	615	1810	835	127	53
10	31	28	30	30	37	46	157	550	1400	775	135	53
11	31	36	32	32	35	43	133	482	1340	725	131	51
12	31	56	34	34	35	45	112	451	1610	660	157	50
13	31	36	36	35	37	47	120	447	1960	630	141	49
14	31	35	35	31	40	47	191	522	2240	615	131	50
15	30	44	34	33	40	50	252	615	2330	581	159	55
16	31	39	34	35	38	47	328	675	2350	545	215	55
17	52	37	34	35	38	48	407	695	2140	509	193	49
18	87	35	38	37	37	46	482	852	1830	468	157	47
19	85	37	40	35	37	46	482	1160	1550	423	143	45
20	85	39	37	35	42	50	435	1300	1320	383	133	47
21	87	39	34	33	41	54	427	1350	1330	361	125	49
22	93	41	34	32	40	56	496	1500	1430	347	114	47
23	63	41	34	32	38	54	630	1530	1540	316	107	45
24	60	39	35	31	39	52	685	1550	1570	289	101	45
25	51	37	35	34	39	58	635	1530	1560	262	97	46
26	39	37	35	34	39	62	554	1790	1610	230	94	45
27	36	36	35	33	42	70	540	1710	1670	212	93	43
28	32	35	35	31	41	78	545	1690	1650	205	85	43
29	26	35	37	33	---	78	568	1860	1570	230	81	41
30	26	37	38	32	---	76	527	1980	1520	235	80	40
31	26	---	34	30	---	80	---	1770	---	197	83	---
TOTAL	1323	1081	1081	999	1051	1635	9703	31930	52380	19019	4020	1541
MEAN	42.7	36.0	34.9	32.2	37.5	52.7	323	1030	1746	614	130	51.4
MAX	93	56	40	37	42	80	685	1980	2350	1570	215	75
MIN	26	24	25	26	32	42	76	447	1320	197	80	40
AC-FT	2620	2140	2140	1980	2080	3240	19250	63330	103900	37720	7970	3060

CAL YR 1978 TOTAL 50114 MEAN 137 MAX 954 MIN 18 AC-FT 99400
WTR YR 1979 TOTAL 125763 MEAN 345 MAX 2350 MIN 24 AC-FT 249500

NOTE.--NO GAGE-HEIGHT RECORD DEC. 5 TO APR. 5.

08220000 RIO GRANDE NEAR DEL NORTE, CO

LOCATION.--Lat 37°41'22", long 106°27'38", in NW¼ sec.29, T.40 N., R.5 E., Rio Grande County, Hydrologic Unit 13010001, on right bank 20 ft (6 m) downstream from county highway bridge, 6.0 mi (9.7 km) west of Del Norte, and 6.8 mi (10.9 km) upstream from Pinos Creek.

DRAINAGE AREA.--1,320 mi² (3,419 km²), approximately.

PERIOD OF RECORD.--June 1889 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 763: Drainage area. WSP 1312: 1889, 1901, 1913-14.

GAGE.--Water-stage recorder. Datum of gage is 7,980.25 ft (2,432.380 m), National Geodetic Vertical Datum of 1929. Prior to May 16, 1908, nonrecording gage at site 4 mi (6 km) downstream at different datum. May 16, 1908, to Nov. 8, 1910, nonrecording gages on bridge at present site and datum.

REMARKS.--Records good except those for winter period, which are fair. Small diversions above station for irrigation. Flow regulated by Beaver Creek Reservoir since 1910, Santa Maria Reservoir since 1912, Rio Grande Reservoir since 1912, and Continental Reservoir since 1925, combined capacity, 126,100 acre-ft (155 hm³), and by several smaller reservoirs. Transmountain diversions to drainage area above station from Colorado River basin (see elsewhere in this report). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--90 years, 897 ft³/s (25.40 m³/s), 649,900 acre-ft/yr (801 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,000 ft³/s (510 m³/s) Oct. 5, 1911, gage height, 6.80 ft (2.073 m), from rating curve extended above 12,900 ft³/s (365 m³/s); minimum daily, 69 ft³/s (1.95 m³/s) Aug. 21, 1902.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1873, that of Oct. 5, 1911, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,030 ft³/s (227 m³/s) at 1000 May 30, gage height, 5.68 ft (1.731 m); minimum daily, 90 ft³/s (2.55 m³/s) Dec. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	188	158	160	120	130	155	223	2080	6180	4580	1370	462
2	185	155	158	105	130	175	223	2300	5810	4260	1240	443
3	178	192	152	115	135	170	208	2320	6110	4070	1110	437
4	172	205	145	125	120	165	212	2290	6420	3760	992	413
5	169	192	150	130	130	160	227	2540	6590	3310	956	395
6	172	178	160	145	140	165	259	2820	7230	3440	983	368
7	166	163	110	130	135	170	310	3150	7720	3230	1010	351
8	166	152	100	120	145	180	401	2990	7620	3150	947	431
9	166	155	90	120	140	195	437	2290	6690	3040	920	455
10	172	155	130	125	140	190	413	2000	5630	3020	848	449
11	169	175	140	130	130	185	384	1760	5530	2750	848	449
12	169	268	145	140	130	195	325	1650	6020	2610	983	443
13	297	208	155	145	140	220	300	1580	6820	2540	1020	431
14	520	143	150	125	160	240	431	1650	7540	2460	929	443
15	598	175	145	140	160	245	569	1900	6940	3040	1030	407
16	689	172	145	150	145	240	729	2190	7020	3080	1250	356
17	729	143	145	145	145	240	929	2370	6690	3360	1160	335
18	770	130	170	160	140	220	1140	2820	6110	3460	1060	310
19	762	141	180	150	135	225	1250	3540	5630	3270	1070	300
20	762	152	160	145	155	210	1160	4160	5140	2930	1000	295
21	762	158	140	135	145	210	1130	4430	4320	2720	956	315
22	605	182	140	125	145	205	1210	5140	4320	2480	857	300
23	455	182	140	125	140	200	1780	5240	4580	2210	754	286
24	443	163	145	120	145	190	2060	5600	4780	2030	705	281
25	468	146	145	140	145	205	2050	5490	4780	1940	658	290
26	413	146	145	140	145	220	1840	6330	4940	1780	620	286
27	378	136	145	130	160	235	1810	7150	5050	1730	605	281
28	330	128	145	115	150	240	1860	7250	5070	1670	569	272
29	192	130	155	135	---	240	2020	7640	4580	1650	520	250
30	166	146	160	125	---	230	1980	7830	4490	1600	494	238
31	160	---	140	110	---	235	---	6870	---	1500	500	---
TOTAL	11571	4929	4490	4065	3960	6355	27870	117370	176350	86670	27964	10772
MEAN	373	164	145	131	141	205	929	3786	5878	2796	902	359
MAX	770	268	180	160	160	245	2060	7830	7720	4580	1370	462
MIN	160	128	90	105	120	155	208	1580	4320	1500	494	238
AC-FT	22950	9780	8910	8060	7850	12610	55280	232800	349800	171900	55470	21370

CAL YR 1978 TOTAL 204988 MEAN 562 MAX 4030 MIN 85 AC-FT 406600
WTR YR 1979 TOTAL 482366 MEAN 1322 MAX 7830 MIN 90 AC-FT 956800

08220500 PINOS CREEK NEAR DEL NORTE, CO

LOCATION.--Lat 37°35'30", long 106°26'58", in SW¼SE¼ sec.29, T.39 N., R.5 E., Rio Grande County, Hydrologic Unit 13010002, on left bank 90 ft (27 m) downstream from Bennett Creek and 8.0 mi (12.9 km) southwest of Del Norte.

DRAINAGE AREA.--53 mi² (140 km²), approximately.

PERIOD OF RECORD.--April 1919 to September 1924, May 1936 to current year. No winter records prior to 1950 except water years 1941, 1944-47. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1312: 1922(M), 1941(M). WSP 1923: 1960(M).

GAGE.--Water-stage recorder and rectangular box flume. Altitude of gage is 8,480 ft (2,585 m), from topographic map. May 1, 1919, to Sept. 30, 1924, nonrecording gages at sites about 1,000 ft (300 m) downstream at different datum.

REMARKS.--Records good except those for period of no gage-height record, which are poor. One small diversion above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--35 years (water years 1941, 1944-47, 1950-79), 23.9 ft³/s (0.677 m³/s), 17,320 acre-ft/yr (21.4 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge not determined, occurred June 3, 1922, caused by failure of private fish-lake dam; maximum discharge determined, 720 ft³/s (20.4 m³/s) Aug. 3, 1936, gage height, 4.19 ft (1.277 m), by slope-area measurement of peak flow; minimum daily, 0.40 ft³/s (0.011 m³/s) Jan. 6, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 3, 1922, exceeded all other observed floods at this location since at least 1903, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 278 ft³/s (7.87 m³/s) at 2200 June 7, gage height, 2.65 ft (0.808 m), only peak above base of 120 ft³/s (3.4 m³/s); minimum daily, 3.0 ft³/s (0.085 m³/s) Dec. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.8	4.1	4.5	4.0	4.5	5.0	7.5	44	185	117	22	9.1
2	3.8	3.5	5.0	3.5	4.5	6.0	8.0	50	175	109	21	8.7
3	3.8	5.0	4.5	4.0	4.5	5.5	8.0	48	182	100	20	8.7
4	3.8	5.3	4.5	4.5	4.0	5.0	8.0	42	191	89	18	8.3
5	3.8	4.7	4.5	4.5	4.5	5.0	8.0	51	203	84	18	7.9
6	3.8	3.8	5.0	5.0	5.0	5.5	8.7	65	222	80	16	7.9
7	3.8	3.5	4.0	4.5	5.0	6.0	12	69	257	79	16	7.9
8	3.8	3.8	4.0	4.0	5.5	5.5	15	67	262	73	18	7.9
9	3.8	4.1	3.0	4.0	5.0	5.5	16	58	222	67	18	7.9
10	3.8	4.1	4.0	4.5	5.0	5.0	13	45	191	60	27	7.5
11	3.5	4.4	4.5	4.5	4.5	5.0	12	38	186	57	22	7.1
12	3.5	4.7	5.0	5.0	4.5	6.0	10	40	200	56	25	7.1
13	3.5	4.0	5.5	5.0	5.0	6.5	12	48	221	55	20	7.1
14	3.5	4.0	5.0	4.5	5.0	6.5	14	55	233	55	21	8.7
15	3.5	4.0	5.0	5.0	5.5	7.5	21	69	239	54	41	10
16	3.5	4.0	5.0	6.0	5.0	6.5	28	74	236	57	26	10
17	3.5	3.5	5.0	5.5	5.0	7.0	34	75	220	56	21	8.3
18	3.5	3.5	5.5	6.0	4.5	6.5	41	80	192	47	20	7.5
19	3.5	3.5	6.0	5.5	4.5	6.5	42	107	181	45	18	7.5
20	3.5	4.0	5.0	5.5	5.5	7.0	38	108	158	39	17	7.5
21	4.1	4.5	4.5	5.0	5.5	7.0	36	118	147	37	16	8.7
22	6.0	5.0	5.0	4.5	5.0	6.5	40	124	142	34	14	8.3
23	5.3	5.0	5.0	4.5	5.0	6.5	48	130	139	31	14	7.5
24	5.6	5.0	5.0	4.5	4.5	6.5	53	134	139	28	14	7.1
25	6.0	4.5	5.0	5.0	5.0	7.0	53	135	136	28	13	6.7
26	3.8	4.0	5.0	5.0	5.0	7.5	48	179	135	27	14	6.7
27	3.8	4.0	5.0	4.5	5.5	8.0	48	177	133	27	14	7.1
28	4.1	4.0	5.0	4.0	5.0	8.5	49	179	125	26	12	7.5
29	3.8	4.0	5.0	5.0	---	8.0	50	200	117	28	10	7.1
30	3.8	4.5	5.5	4.5	---	8.0	44	206	114	28	11	6.7
31	4.1	---	5.0	4.0	---	8.0	---	200	---	25	10	---
TOTAL	123.4	126.0	149.5	145.5	137.0	200.5	825.2	3015	5483	1698	567	236.0
MEAN	3.98	4.20	4.82	4.69	4.89	6.47	27.5	97.3	183	54.8	18.3	7.87
MAX	6.0	5.3	6.0	6.0	5.5	8.5	53	206	262	117	41	10
MIN	3.5	3.5	3.0	3.5	4.0	5.0	7.5	38	114	25	10	6.7
AC-FT	245	250	297	289	272	398	1640	5980	10880	3370	1120	468

CAL YR 1978 TOTAL 4196.4 MEAN 11.5 MAX 66 MIN 2.2 AC-FT 8320
WTR YR 1979 TOTAL 12706.1 MEAN 34.8 MAX 262 MIN 3.0 AC-FT 25200

NOTE.--NO GAGE-HEIGHT RECORD NOV. 20 TO APR. 5.

08221500 RIO GRANDE NEAR MONTE VISTA, CO

LOCATION.--Lat 37°36'34", long 106°08'54", in NW¼SW¼ sec.19, T.39 N., R.8 E., Rio Grande County, Hydrologic Unit 13010002, on left bank 50 ft (15 m) downstream from bridge on U.S. Highway 285, 2.0 mi (3.2 km) north of Monte Vista, and 12 mi (19 km) downstream from San Francisco Creek.

DRAINAGE AREA.--1,590 mi^2 (4,120 km^2), approximately.

PERIOD OF RECORD.--May 1926 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 928: Drainage area. WSP 1712: 1959.

GAGE.--Water-stage recorder. Datum of gage is 7,654.16 ft (2,322.988 m) Colorado State Highway Datum. See WSP 1712 or 1732 for history of changes prior to June 15, 1938. June 16, 1938, to Feb. 28, 1971, at site 50 ft (15 m) upstream at present datum.

REMARKS.--Records good except those for winter period, which are fair. Diversions above station for irrigation of about 90,000 acres (364 km^2). Flow regulated by Beaver Creek, Santa Maria, Rio Grande, and Continental Reservoirs, combined capacity, 126,100 acre-ft (155 hm^3), and by several smaller reservoirs. Transmountain diversions to drainage area above station from Colorado River basin (see elsewhere in this report). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--53 years, 329 ft^3/s (9.317 m^3/s), 238,400 acre-ft/yr (294 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,500 ft^3/s (524 m^3/s) June 30, 1927, gage height, 7.35 ft (2.240 m), present datum, from floodmarks; maximum gage height, 8.00 ft (2.438 m) June 19, 1949; minimum daily discharge, 1.5 ft^3/s (0.042 m^3/s) Apr. 14, 1959.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,100 ft^3/s (116 m^3/s) at 2300 May 30, gage height, 7.04 ft (2.146 m); maximum gage height, 7.17 ft (2.185 m) June 8; minimum daily, 53 ft^3/s (1.50 m^3/s) Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	118	152	150	130	125	155	239	1090	3120	2470	814	74
2	112	161	155	110	130	160	239	1220	2900	2400	758	74
3	115	179	150	110	130	170	216	1240	3120	2230	695	74
4	108	207	150	120	135	170	229	1240	3250	2220	660	82
5	105	204	145	125	125	165	256	1360	3280	1920	660	82
6	102	191	155	125	135	165	273	1480	3440	1900	665	80
7	108	179	95	135	140	170	315	1660	3650	1970	675	82
8	105	167	90	125	140	180	395	1520	3800	1930	630	76
9	102	164	90	120	145	180	458	1270	3540	1800	600	87
10	102	161	125	120	140	195	440	1270	2880	1640	570	85
11	102	164	125	120	140	190	419	1130	2770	1350	566	80
12	110	216	135	130	130	190	379	1040	2890	1150	570	80
13	110	242	140	140	130	210	343	980	3140	1010	645	74
14	338	176	150	140	140	230	395	974	3340	956	561	78
15	435	164	150	130	155	250	512	1130	3330	1260	615	115
16	543	176	145	140	155	260	640	1360	3190	1440	665	128
17	580	167	145	145	150	260	814	1520	3100	1640	635	118
18	615	152	145	145	145	265	1010	1610	2880	1690	580	87
19	610	155	165	155	140	250	1190	2030	2770	1740	600	80
20	610	152	170	145	140	255	1170	2150	2710	1650	556	74
21	640	158	155	145	155	259	1120	2300	2490	1430	538	78
22	620	173	140	130	145	252	1150	2810	2490	1240	516	85
23	431	176	140	130	145	262	1050	2870	2570	1090	471	78
24	383	173	140	130	145	259	1040	2990	2570	1020	419	72
25	407	173	140	125	150	259	1080	3090	2510	974	343	70
26	383	155	145	140	150	270	956	3140	2550	968	182	74
27	335	145	145	140	145	290	908	3800	2540	914	138	67
28	323	135	140	135	160	290	914	3900	2480	896	85	59
29	229	125	150	125	---	294	1050	3830	2270	896	56	57
30	158	135	155	135	---	259	1050	3960	2330	926	67	53
31	144	---	150	125	---	259	---	3800	---	872	74	---
TOTAL	9183	5077	4375	4070	3965	7023	20250	63764	87900	45592	15609	2403
MEAN	296	169	141	131	142	227	675	2057	2930	1471	504	80.1
MAX	640	242	170	155	160	294	1190	3960	3800	2470	814	128
MIN	102	125	90	110	125	155	216	974	2270	872	56	53
AC-FT	18210	10070	8680	8070	7860	13930	40170	126500	174300	90430	30960	4770

CAL YR 1978 TOTAL 91287 MEAN 250 MAX 1220 MIN 10 AC-FT 181100
WTR YR 1979 TOTAL 269211 MEAN 738 MAX 3960 MIN 53 AC-FT 534000

NOTE.--NO GAGE-HEIGHT RECORD DEC. 1 TO MAR. 13.

08223000 RIO GRANDE AT ALAMOSA, CO

LOCATION.--Lat 37°28'53", long 105°52'46", in SE¼NE¼ sec.4, T.37 N., R.10 E., Alamosa County, Hydrologic Unit 13010002, on right bank 0.2 mi (0.3 km) northwest of city limits of Alamosa and 9 mi (14 km) upstream from Alamosa Creek.

DRAINAGE AREA.--1,710 mi² (4,430 km²), approximately.

PERIOD OF RECORD.--May 1912 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 928: Drainage area. WSP 1312: 1936(M). WSP 1732: 1951.

GAGE.--Water-stage recorder. Datum of gage is 7,532.66 ft (2,295.955 m) National Geodetic Vertical Datum of 1929. Prior to Apr. 7, 1915, nonrecording gages, and Apr. 7, 1915, to Nov. 5, 1935, water-stage recorder, at railroad and highway bridges in Alamosa 1.0 to 2.5 mi (1.6 to 4.0 km) downstream at different datums. Nov. 6, 1935, to June 30, 1942, water-stage recorder at present site at datum 1.00 ft (0.305 m) higher.

REMARKS.--Records good except those for winter period, which are poor. Natural flow of stream affected by transmountain diversions, storage reservoirs, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--67 years, 250 ft³/s (7.080 m³/s), 181,100 acre-ft/yr (223 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,000 ft³/s (396 m³/s) July 1, 1927, gage height, 8.37 ft (2.551 m), site and datum then in use; maximum gage height, 10.62 ft (3.237 m) June 20, 1949; minimum daily discharge, 1.0 ft³/s (0.028 m³/s) May 19, 1950.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in October 1911 with a stage of 0.2 ft (0.061 m) lower than that of July 1, 1927, from floodmarks, probably exceeded that of July 1, 1927; and is probably the greatest since at least 1884, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,020 ft³/s (85.5 m³/s) at 2000 June 9, gage height, 8.13 ft (2.478 m); maximum gage height, 8.13 ft (2.478 m) June 9; minimum daily discharge, 19 ft³/s (0.54 m³/s) Sept. 29, 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	86	196	140	140	130	160	304	724	2660	1400	805	81
2	84	208	150	125	125	160	276	724	2040	1500	749	73
3	82	224	150	110	135	165	282	774	1680	1550	682	65
4	84	239	145	115	135	170	266	766	1800	1430	613	61
5	94	256	145	120	135	170	270	760	2010	1530	577	57
6	86	252	150	120	135	165	290	816	2060	1360	556	45
7	83	239	80	120	135	170	310	884	2240	1290	559	34
8	86	228	75	130	140	170	350	965	2550	1330	559	31
9	83	213	90	125	140	180	415	892	2980	1420	526	29
10	81	208	120	120	145	180	468	774	2870	1390	493	27
11	78	213	120	120	140	195	452	763	2080	1330	485	27
12	81	222	125	120	140	195	435	714	1700	1280	468	24
13	88	262	135	130	130	200	402	697	1690	1140	511	30
14	93	276	140	135	130	220	378	694	2010	970	562	27
15	220	224	150	135	140	240	442	700	2370	900	535	27
16	314	213	145	130	150	265	529	707	2630	1060	616	27
17	400	213	145	135	150	275	649	735	2330	1230	673	25
18	448	202	145	140	140	280	774	770	2240	1410	646	25
19	482	185	145	140	145	290	948	805	1920	1570	598	24
20	490	181	160	150	145	290	1090	924	1770	1550	607	25
21	502	181	160	145	140	285	1140	970	1710	1500	574	24
22	535	192	150	145	155	290	1130	995	1570	1330	553	22
23	511	209	140	135	150	310	1140	1230	1530	1190	517	22
24	398	209	140	135	150	320	1070	1440	1560	1100	462	22
25	365	217	140	135	150	286	892	1560	1600	1000	422	21
26	360	206	140	135	155	288	812	1710	1580	948	372	20
27	345	189	145	140	150	296	746	1690	1600	928	232	20
28	320	169	145	140	150	312	718	2140	1610	884	174	20
29	314	135	140	140	---	328	710	2610	1550	856	126	19
30	278	130	145	130	---	324	746	2580	1430	856	94	19
31	202	---	145	135	---	308	---	2680	---	856	83	---
TOTAL	7673	6291	4245	4075	3965	7487	18434	35193	59370	38088	15429	973
MEAN	248	210	137	131	142	242	614	1135	1979	1229	498	32.4
MAX	535	276	160	150	155	328	1140	2680	2980	1570	805	81
MIN	78	130	75	110	125	160	266	694	1430	856	83	19
AC-FT	15220	12480	8420	8080	7860	14850	36560	69810	117800	75550	30600	1930

CAL YR 1978 TOTAL 48639 MEAN 133 MAX 535 MIN 23 AC-FT 96480
WTR YR 1979 TOTAL 201223 MEAN 551 MAX 2980 MIN 19 AC-FT 399100

NOTE.--NO GAGE-HEIGHT RECORD JAN. 22 TO MAR. 22.

CLOSED BASIN IN SAN LUIS VALLEY. CO

08224500 KERBER CREEK AT ASHLEY RANCH. NEAR VILLA GROVE. CO

LOCATION.--Lat 38°14'28". long 106°06'57". in SW¼NW¼ sec.17. T.46 N.. R.8 E.. Saguache County. Hydrologic Unit 13010003. on left bank at Ashley Ranch. 4.5 mi (7.2 km) upstream from Little Kerber Creek. and 9 mi (14 km) west of Villa Grove.

DRAINAGE AREA.--38 mi² (98 km²). approximately.

PERIOD OF RECORD.--June 1923 to September 1926 (published as Kerber Creek near Villa Grove). May 1936 to current year. Monthly discharge only for some periods. published in WSP 1312.

REVISED RECORDS.--WSP 1312: 1937-38. WSP 1512: 1943.

GAGE.--Water-stage recorder. Altitude of gage is 8,830 ft (2.691 m). from topographic map. Prior to Dec. 10. 1963. at site 150 ft (46 m) upstream at datum 1.50 ft (0.457 m) higher.

REMARKS.--Records good except those for winter period. which are poor. No diversion above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--46 years (water years 1924-26. 1937-79). 12.5 ft³/s (0.354 m³/s). 9.060 acre-ft/yr (11.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge. 407 ft³/s (11.5 m³/s) May 14. 1941. gage height. 3.88 ft (1.183 m). site and datum then in use. from rating curve extended above 140 ft³/s (4.0 m³/s); maximum gage height. 5.04 ft (1.536 m). site and datum then in use. May 11. 1947 (backwater from beaver dam); no flow Dec. 30. 1976. to Jan. 31. 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1872. that of May 14. 1941. from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 70 ft³/s (2.0 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
May 28						June 8	1530	126	3.57	1.26	0.381

Minimum daily discharge. 1.0 ft³/s (0.028 m³/s) Jan. 2.

DISCHARGE. IN CUBIC FEET PER SECOND. WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	4.2	2.5	2.0	1.5	2.5	3.5	40	88	48	8.5	6.2
2	2.1	4.0	2.5	1.0	2.5	3.0	3.0	36	78	50	7.4	6.2
3	2.1	4.2	2.5	1.5	2.5	3.0	3.5	35	81	42	7.7	5.9
4	2.2	4.0	2.5	2.0	2.0	3.0	4.5	34	81	34	7.4	5.6
5	2.2	4.0	3.0	2.0	2.5	3.0	6.0	36	88	31	7.4	5.3
6	2.2	3.4	2.5	2.0	2.5	3.0	8.0	44	84	35	7.4	5.0
7	2.1	3.4	1.5	2.0	2.5	3.0	12	50	98	32	7.6	4.8
8	2.2	3.6	1.5	2.0	3.0	3.5	13	48	114	26	7.4	4.8
9	2.2	3.6	1.5	1.5	2.5	3.5	12	42	93	23	8.0	4.8
10	2.2	3.6	1.5	2.0	2.0	3.0	11	40	93	21	8.0	4.8
11	2.2	4.2	1.5	2.5	2.0	3.0	8.5	35	81	20	7.4	4.8
12	2.2	4.4	1.5	3.0	2.0	3.0	7.7	28	70	19	6.8	5.0
13	2.4	2.5	2.0	3.0	2.0	3.0	7.4	30	67	20	7.4	4.6
14	2.2	2.5	2.0	2.5	2.0	3.0	9.5	30	65	20	28	4.6
15	2.2	3.0	2.0	3.0	2.5	3.0	12	34	67	22	22	4.8
16	2.2	2.5	2.0	3.0	2.5	3.0	18	46	68	21	16	4.6
17	2.6	2.5	2.0	3.0	2.5	3.0	26	54	65	23	14	4.0
18	2.7	2.5	2.0	3.5	2.5	3.5	35	54	53	20	17	4.2
19	2.7	3.0	2.5	3.5	2.5	3.5	34	53	48	18	12	4.1
20	2.7	3.0	2.5	3.5	3.0	3.5	34	60	48	20	12	4.7
21	4.1	3.0	2.0	3.0	2.5	3.5	31	65	42	23	12	12
22	7.4	3.0	2.5	3.0	2.0	3.5	34	70	42	14	9.0	6.8
23	5.3	3.0	2.5	2.5	2.0	4.0	38	75	41	12	8.5	5.0
24	5.9	2.5	2.0	3.0	2.0	4.0	42	80	40	10	8.0	4.6
25	6.5	2.0	1.5	3.0	2.0	4.0	40	90	36	11	7.7	4.6
26	4.4	2.0	1.5	3.5	2.0	4.0	34	100	39	9.0	8.0	4.8
27	4.8	2.0	2.0	3.0	2.5	4.5	34	110	42	11	7.7	4.6
28	4.4	2.0	1.5	2.5	2.5	9.0	36	105	44	12	7.4	4.4
29	4.6	2.0	2.0	2.5	---	5.0	40	110	47	12	6.8	4.2
30	4.2	2.5	2.0	2.5	---	4.5	36	115	48	11	7.1	4.2
31	4.2	---	2.0	1.5	---	4.0	---	100	---	8.5	7.1	---
TOTAL	101.4	92.1	63.0	78.5	64.5	108.0	633.6	1849	1951	678.5	308.7	154.0
MEAN	3.27	3.07	2.03	2.53	2.30	3.48	21.1	59.6	65.0	21.9	9.96	5.13
MAX	7.4	4.4	3.0	3.5	3.0	5.0	42	115	114	50	28	12
MIN	2.0	2.0	1.5	1.0	1.5	2.5	3.0	28	36	8.5	6.8	4.0
AC-FT	201	183	125	156	128	214	1260	3670	3870	1350	612	305

CAL YR 1978 TOTAL 3447.8 MEAN 9.45 MAX 54 MIN 1.5 AC-FT 6840
WTR YR 1979 TOTAL 6082.3 MEAN 16.7 MAX 115 MIN 1.0 AC-FT 12060

NOTE.--NO GAGE-HEIGHT RECORD NOV. 21 TO APR. 11. MAY 20-31.

CLOSED BASIN IN SAN LUIS VALLEY, CO

08227000 SAGUACHE CREEK NEAR SAGUACHE, CO

LOCATION.--Lat 38°09'48", long 106°17'24", in SE¼SE¼ sec.10, T.45 N., R.6 E., Saguache County, Hydrologic Unit 13010004, on left bank 0.2 mi (0.3 km) downstream from Middle Creek and 10 mi (16 km) northwest of Saguache.

DRAINAGE AREA.--595 mi² (1,541 km²).

PERIOD OF RECORD.--August 1910 to September 1912, June 1914 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1242: 1948-49. WSP 1312: 1912, 1934(M), 1942(M). WSP 1923: 1951.

GAGE.--Water-stage recorder. Altitude of gage is about 8,030 ft (2,448 m), from topographic map. Prior to Apr. 9, 1934, at sites 0.8 mi (1.3 km) downstream at different datums. Apr. 10, 1934, to Nov. 20, 1966, at present site at datum 1.00 ft (0.305 m) higher.

REMARKS.--Records good except those for winter period, which are poor. Natural flow of stream affected by transmountain diversions from Colorado River basin to drainage area above station through Tarbell ditch (see elsewhere in this report), and diversions above station for irrigation. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--67 years (water years 1911-12, 1915-79), 68.1 ft³/s (1.929 m³/s), 49,340 acre-ft/yr (60.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 790 ft³/s (22.4 m³/s) Aug. 3, 1964, gage height, 3.85 ft (1.173 m), present datum, from rating curve extended above 83 ft³/s (2.4 m³/s); maximum gage height, 3.94 ft (1.201 m) May 20, 1970; minimum daily discharge, 7.0 ft³/s (0.20 m³/s) Jan. 7, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 382 ft³/s (10.8 m³/s) at 0830 June 9, gage height, 3.61 ft (1.100 m), only peak above base of 210 ft³/s (5.9 m³/s); minimum daily, 10 ft³/s (0.28 m³/s) Jan. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	26	20	13	14	21	36	79	348	242	80	45
2	16	26	21	10	19	26	32	86	317	254	75	43
3	16	27	20	13	19	26	33	90	298	260	72	44
4	16	29	19	14	16	24	37	89	292	233	67	42
5	16	26	21	14	18	25	42	85	296	211	63	41
6	17	24	22	13	20	25	51	91	304	216	60	39
7	14	21	12	14	20	26	73	104	313	228	59	37
8	14	22	11	14	23	29	79	106	348	197	58	36
9	14	24	12	12	21	29	69	105	372	178	60	36
10	15	24	13	15	19	26	60	100	346	160	61	35
11	15	26	15	17	18	26	47	83	302	148	59	35
12	16	36	15	22	19	27	41	77	278	143	58	35
13	16	26	16	22	19	29	39	73	285	134	60	33
14	16	16	16	16	19	30	51	77	304	127	81	33
15	16	19	14	21	21	32	65	90	329	122	101	37
16	17	16	16	22	21	31	74	109	344	122	98	36
17	18	17	16	21	21	31	84	129	348	136	84	35
18	18	17	17	24	21	36	85	127	338	133	78	33
19	18	19	19	24	21	37	90	141	313	127	81	31
20	19	20	17	24	23	35	81	157	292	114	75	30
21	22	19	15	21	21	38	72	189	265	113	72	37
22	36	21	19	21	17	35	74	195	249	129	65	38
23	35	22	20	19	17	41	84	205	247	126	59	34
24	32	21	15	21	17	42	90	222	252	104	57	32
25	36	18	13	21	18	39	91	251	251	100	51	32
26	30	18	14	25	19	44	79	281	244	95	51	32
27	25	19	15	21	22	46	74	321	242	92	52	31
28	24	17	13	19	22	52	75	344	247	95	51	31
29	24	17	15	20	---	52	77	340	240	96	46	32
30	25	19	14	20	---	44	77	350	237	100	45	31
31	26	---	13	14	---	39	---	364	---	86	49	---
TOTAL	639	652	498	567	545	1043	1962	5060	8841	4621	2028	1066
MEAN	20.6	21.7	16.1	18.3	19.5	33.6	65.4	163	295	149	65.4	35.5
MAX	36	36	22	25	23	52	91	364	372	260	101	45
MIN	14	16	11	10	14	21	32	73	237	86	45	30
AC-FT	1270	1290	988	1120	1080	2070	3890	10040	17540	9170	4020	2110

CAL YR 1978 TOTAL 13081 MEAN 35.8 MAX 156 MIN 10 AC-FT 25950
WTR YR 1979 TOTAL 27522 MEAN 75.4 MAX 372 MIN 10 AC-FT 54590

CLOSED BASIN IN SAN LUIS VALLEY, CO

08227500 NORTH CRESTONE CREEK NEAR CRESTONE, CO

LOCATION.--Lat 38°00'49", long 105°41'32", Saguache County, Hydrologic Unit 13010003, on right bank in canyon, 1.5 mi (2.4 km) northeast of Crestone, and 3.2 mi (5.1 km) upstream from South Crestone Creek.

DRAINAGE AREA.--10.7 mi² (27.7 km²).

PERIOD OF RECORD.--May 1936 to current year (no winter records prior to 1948).

GAGE.--Water-stage recorder. Altitude of gage is 8,360 ft (2,548 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. No diversion above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--32 years (water years 1948-79), 11.1 ft³/s (0.314 m³/s), 8,040 acre-ft/yr (9.91 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 735 ft³/s (20.8 m³/s) Aug. 6, 1936, gage height, 4.33 ft (1.320 m), from rating curve extended above 160 ft³/s (4.5 m³/s), on basis of slope-area measurement of peak flow; minimum daily recorded, 0.4 ft³/s (0.011 m³/s) Apr. 3, 1945.

Stage and discharge of the flood of Aug. 6, 1936, are the greatest since October 1911, from information by local residents.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of October 1911 is the greatest probably since at least 1884.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 132 ft³/s (3.75 m³/s) June 13, gage height, 2.25 ft (0.686 m), only peak above base of 60 ft³/s (1.7 m³/s); minimum daily, 1.0 ft³/s (0.028 m³/s) Dec. 8, 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	2.6	2.4	1.5	1.5	2.5	1.5	15	78	65	15	6.0
2	1.8	2.6	2.4	1.7	2.0	2.5	1.5	15	78	63	14	5.7
3	1.8	3.3	2.0	2.0	1.5	2.5	1.5	14	80	60	13	5.7
4	2.0	3.0	2.0	2.0	1.5	2.0	1.5	14	85	59	11	5.4
5	2.0	3.0	2.5	2.0	1.5	1.5	1.6	17	96	51	11	5.4
6	2.2	3.0	2.5	2.5	1.5	2.0	1.8	22	104	47	11	5.1
7	2.0	3.0	2.0	2.0	1.5	2.0	2.4	28	104	45	11	4.8
8	2.0	3.0	1.0	2.0	2.0	2.0	3.6	22	96	45	11	4.8
9	2.0	3.0	1.0	2.0	2.0	1.5	4.2	19	85	36	12	4.8
10	2.0	3.0	1.5	2.0	2.0	1.5	4.2	15	80	34	12	4.8
11	2.0	3.0	1.5	2.0	2.0	1.5	5.4	13	82	33	11	4.8
12	2.0	3.3	1.5	2.5	2.0	2.0	4.8	12	91	32	11	4.8
13	2.0	3.0	2.0	2.0	2.5	2.0	5.4	12	109	31	11	4.2
14	2.0	2.5	2.0	1.5	2.5	2.0	4.5	14	119	29	13	4.5
15	2.0	3.3	2.0	2.0	2.5	2.0	5.4	20	111	29	20	4.8
16	2.0	3.0	2.0	2.5	2.5	2.5	13	30	112	27	22	4.5
17	2.0	3.0	2.0	2.5	2.5	2.5	10	45	90	27	18	4.5
18	2.0	2.7	2.5	2.5	2.0	2.0	12	49	78	29	16	4.2
19	2.0	2.5	2.5	2.0	2.0	2.0	13	65	62	25	15	4.2
20	2.0	2.5	2.3	2.0	2.5	2.5	12	65	63	23	12	4.2
21	2.4	2.6	2.0	2.0	2.5	2.5	12	65	63	22	11	4.5
22	3.9	2.4	2.0	2.0	2.5	2.5	13	62	62	21	9.6	4.5
23	3.0	2.4	2.0	2.0	2.0	2.0	14	62	63	21	9.2	4.2
24	3.3	2.4	2.0	2.0	2.0	2.0	17	70	66	21	8.4	3.9
25	3.9	2.6	2.0	2.5	2.0	2.0	18	96	63	20	8.4	3.9
26	2.6	2.6	2.0	2.5	2.0	2.0	15	101	63	19	8.4	3.6
27	3.0	2.5	2.0	2.0	2.0	2.0	14	101	63	18	7.6	3.6
28	3.0	2.5	2.0	2.0	2.0	2.0	15	99	63	18	7.2	3.6
29	3.0	2.5	2.5	2.0	---	2.0	15	101	63	18	6.8	3.3
30	3.0	2.4	2.5	1.5	---	2.0	15	101	65	17	6.4	3.3
31	2.8	---	2.0	1.5	---	1.7	---	85	---	15	6.4	---
TOTAL	73.5	83.2	62.6	63.2	57.0	63.7	257.3	1449	2437	1000	359.4	135.6
MEAN	2.37	2.77	2.02	2.04	2.04	2.05	8.58	46.7	81.2	32.3	11.6	4.52
MAX	3.9	3.3	2.5	2.5	2.5	2.5	18	101	119	65	22	6.0
MIN	1.8	2.4	1.0	1.5	1.5	1.5	1.5	12	62	15	6.4	3.3
AC-FT	146	165	124	125	113	126	510	2870	4830	1980	713	269

CAL YR 1978 TOTAL 3064.90 MEAN 8.40 MAX 59 MIN .80 AC-FT 6080
WTR YR 1979 TOTAL 6041.50 MEAN 16.6 MAX 119 MIN 1.0 AC-FT 11980

NOTE.--NO GAGE-HEIGHT RECORD DEC. 5 TO APR. 4.

CLOSED BASIN IN SAN LUIS VALLEY, CO

08230500 CARNERO CREEK NEAR LA GARITA, CO

LOCATION.--Lat 37°51'35", long 106°19'08", in SW¼NE¼ sec.28, T.42 N., R.6 E. (projected), Saguache County, Hydrologic Unit 13010004, on left bank 4.5 mi (7.2 km) northwest of La Garita and 6.6 mi (10.6 km) downstream from North Fork.

DRAINAGE AREA.--117 mi² (303 km²).

PERIOD OF RECORD.--April 1919 to current year. No winter records prior to water year 1945 except water years 1926, 1941. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1312: 1935 (monthly figures only).

GAGE.--Water-stage recorder. Altitude of gage is 8,150 ft (2,484 m), from topographic map. Prior to Aug. 6, 1925, nonrecording gage or water-stage recorder at site 300 ft (91 m) downstream at different datum. Aug. 6, 1925, to Apr. 20, 1929, nonrecording gage or water-stage recorder at present site at datum 1.00 ft (0.305 m) higher. Apr. 21, 1929, to Nov. 20, 1966, water-stage recorder at present site at datum 1.00 ft (0.305 m) higher.

REMARKS.--Records good except those for winter period, which are poor. Diversions above station for irrigation. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--37 years (water years 1926, 1941, 1945-79), 10.9 ft³/s (0.309 m³/s), 7,900 acre-ft/yr (9.74 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,600 ft³/s (45.3 m³/s) July 21, 1945, gage height, 6.75 ft (2.057 m), present datum, from rating curve extended above 160 ft³/s (4.5 m³/s); no flow for several days during summer months in 1951, 1955-56, 1963, Dec. 21, 1976, to Feb. 15, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 109 ft³/s (3.09 m³/s) at 1030 May 28, gage height, 2.65 ft (0.808 m), no peak above base of 110 ft³/s (3.1 m³/s); minimum daily, 1.0 ft³/s (0.028 m³/s) Dec. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	2.2	2.0	2.5	2.0	3.0	3.5	39	85	29	7.3	4.8
2	1.1	2.2	2.0	2.0	2.5	4.0	3.0	45	78	27	6.2	4.5
3	1.1	2.5	1.5	2.5	2.5	3.5	3.0	42	72	23	6.2	4.2
4	1.1	2.6	1.5	2.5	2.0	3.0	3.0	39	65	23	6.0	4.0
5	1.1	2.5	2.0	2.5	2.5	3.0	4.5	41	61	21	5.0	4.0
6	1.1	2.4	2.0	3.0	2.5	3.5	7.0	42	56	19	4.8	3.8
7	1.2	2.4	1.5	2.5	2.5	3.5	11	46	55	20	4.5	3.4
8	1.3	2.4	1.0	2.5	3.0	4.0	12	50	66	17	4.5	3.2
9	1.3	2.4	1.5	2.5	2.5	4.0	12	45	66	16	6.8	3.2
10	1.3	2.0	1.5	3.0	2.5	3.5	11	40	55	14	11	3.4
11	1.3	2.4	1.5	3.0	2.5	3.5	10	35	51	14	7.0	3.4
12	1.3	2.5	2.0	3.0	2.5	4.0	7.9	36	46	13	5.8	3.4
13	1.3	2.0	2.0	3.0	2.5	4.0	9.7	34	42	12	5.0	3.0
14	1.3	1.5	1.5	2.5	2.5	4.5	10	32	40	11	14	4.0
15	1.3	2.0	1.5	3.0	3.0	4.5	14	36	40	11	23	5.8
16	1.3	2.0	1.5	3.0	3.0	4.5	18	43	40	12	14	4.8
17	1.4	2.0	2.0	3.0	3.0	4.5	26	51	39	18	9.4	4.0
18	1.4	2.0	3.0	3.0	3.0	4.0	30	44	38	17	9.4	3.6
19	1.4	2.0	3.0	3.0	3.0	4.0	35	52	38	13	9.4	3.4
20	1.6	2.0	2.5	3.0	3.5	4.0	36	56	38	11	8.8	3.2
21	2.2	2.0	2.5	2.5	3.0	4.0	35	62	36	11	9.1	4.0
22	3.6	2.5	3.0	2.5	3.0	4.0	37	64	33	14	7.6	4.5
23	3.4	2.5	3.0	2.5	3.0	3.5	44	66	32	12	6.8	3.8
24	3.2	2.0	2.5	2.5	2.5	3.0	51	74	33	10	6.5	3.6
25	3.8	1.5	2.5	3.0	2.5	3.0	51	85	32	9.6	6.0	3.8
26	3.0	1.5	2.5	3.0	3.0	3.5	38	88	32	9.4	6.0	3.4
27	2.6	1.5	2.5	2.5	3.0	4.0	41	97	28	9.7	6.2	3.4
28	2.5	1.5	2.5	2.5	3.0	4.5	44	99	25	10	5.8	3.4
29	2.5	1.5	3.0	2.5	---	4.5	42	96	24	10	5.2	3.2
30	2.4	1.5	3.0	2.0	---	4.0	38	90	25	10	5.2	3.2
31	2.2	---	3.0	1.5	---	4.0	---	96	---	7.9	5.8	---
TOTAL	56.7	62.0	67.0	82.0	76.0	118.5	687.6	1765	1371	454.6	238.3	113.4
MEAN	1.83	2.07	2.16	2.65	2.71	3.82	22.9	56.9	45.7	14.7	7.69	3.78
MAX	3.8	2.6	3.0	3.0	3.5	4.5	51	99	85	29	23	5.8
MIN	1.1	1.5	1.0	1.5	2.0	3.0	3.0	32	24	7.9	4.5	3.0
AC-FT	112	123	133	163	151	235	1360	3500	2720	902	473	225

CAL YR 1978 TOTAL 1719.00 MEAN 4.71 MAX 29 MIN .30 AC-FT 3410

WTR YR 1979 TOTAL 5092.10 MEAN 14.0 MAX 99 MIN 1.0 AC-FT 10100

NOTE.--NO GAGE-HEIGHT RECORD NOV. 21 TO APR. 6.

CLOSED BASIN IN SAN LUIS VALLEY, CO

08231000 LA GARITA CREEK NEAR LA GARITA, CO

LOCATION.--Lat 37°48'48", long 106°19'04", in NW¼SE¼ sec.9, T.41 N., R.6 E., Saguache County, Hydrologic Unit 13010004, on right bank 4.5 mi (7.2 km) downstream from Little La Garita Creek and 4.5 mi (7.2 km) southwest of La Garita.

DRAINAGE AREA.--61 mi² (160 km²), approximately.

PERIOD OF RECORD.--April 1919 to current year. No winter records prior to water year 1948 except water years 1926, 1941, 1945-46. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1312: 1946(M).

GAGE.--Water-stage recorder. Altitude of gage is 8,030 ft (2,448 m), from topographic map. Apr. 1, 1919, to June 23, 1927, nonrecording gages, and June 24, 1927, to Nov. 13, 1935, water-stage recorder, at sites within 0.2 mi (0.3 km) downstream at different datums. Nov. 14, 1935, to Nov. 16, 1966, water-stage recorder at present site at datum 1.00 ft (0.305 m) higher.

REMARKS.--Records good except those for winter period, which are poor. Diversions above station for irrigation. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--36 years (water years 1926, 1941, 1945-46, 1948-79), 12.7 ft³/s (0.360 m³/s), 9,200 acre-ft/yr (11.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 530 ft³/s (15.0 m³/s) July 9, 1957, gage height, 4.00 ft (1.219 m), present datum, from rating curve extended above 140 ft³/s (4.0 m³/s); minimum daily recorded, 0.2 ft³/s (0.006 m³/s) Sept. 28, 29, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 219 ft³/s (6.20 m³/s) at 0400 May 29, gage height, 2.70 ft (0.823 m), only peak above base of 80 ft³/s (2.3 m³/s); minimum daily, 1.4 ft³/s (0.040 m³/s) Jan. 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	3.5	2.0	2.5	1.5	3.0	3.0	36	119	45	13	6.2
2	2.2	3.3	2.0	1.5	2.0	3.5	3.5	34	111	38	12	5.9
3	2.2	3.8	2.0	2.0	2.0	3.5	4.0	32	100	34	12	5.9
4	2.2	3.7	2.0	2.0	1.5	3.0	4.5	31	92	34	11	5.9
5	2.2	3.8	2.0	2.0	2.0	3.0	6.0	35	92	30	9.8	5.1
6	2.2	3.3	2.0	2.0	2.5	3.0	7.5	39	87	28	9.4	4.6
7	2.2	3.0	1.5	2.0	2.5	3.5	9.0	44	94	28	8.8	4.6
8	2.2	3.3	1.5	2.0	3.0	3.5	9.6	41	111	25	8.4	4.6
9	2.2	3.3	1.5	2.0	2.5	3.0	8.4	37	100	24	12	4.6
10	2.3	3.3	1.5	2.0	2.0	3.0	7.6	29	73	21	16	4.6
11	2.3	3.7	2.0	2.5	2.0	3.0	7.6	26	67	20	11	4.4
12	2.3	3.7	2.0	3.0	2.0	3.5	6.8	25	63	19	8.8	4.4
13	2.3	1.8	2.0	3.0	2.0	3.5	6.5	26	63	19	8.0	4.2
14	2.3	1.5	2.0	2.5	2.0	4.0	10	29	69	21	15	5.9
15	2.6	2.3	2.0	3.0	2.5	4.0	15	36	76	21	25	8.0
16	2.6	2.3	2.0	3.0	2.5	4.5	18	45	76	22	19	8.0
17	2.6	2.0	2.0	3.0	2.5	4.5	26	56	71	27	13	5.9
18	2.9	2.0	2.5	3.0	2.5	4.0	32	73	63	22	13	5.1
19	2.9	2.0	2.5	3.0	2.5	4.0	35	100	62	24	13	5.1
20	2.9	2.0	2.5	3.0	3.5	4.5	31	119	54	22	11	5.1
21	3.2	2.0	2.5	2.5	3.0	4.5	30	108	48	20	9.4	8.0
22	4.0	2.4	3.0	2.5	2.5	4.5	32	138	45	24	9.4	6.2
23	3.7	2.3	3.0	2.0	2.5	4.0	36	135	44	20	8.8	4.8
24	3.7	2.5	2.5	2.0	2.5	4.0	41	142	44	18	8.0	4.4
25	4.0	2.0	2.0	2.0	2.5	4.0	37	132	42	16	8.0	4.4
26	3.2	1.9	2.0	3.0	2.5	4.0	29	155	41	16	8.0	4.4
27	3.2	2.0	2.5	2.0	3.0	4.0	31	167	38	15	8.0	4.6
28	3.3	2.0	2.5	2.0	3.0	4.0	31	148	37	16	7.6	4.4
29	3.3	2.0	2.5	2.0	---	4.0	35	167	36	19	6.8	4.2
30	3.3	2.0	2.5	2.0	---	4.0	32	148	36	20	7.2	4.2
31	3.5	---	2.5	1.4	---	4.0	---	145	---	16	7.2	---
TOTAL	86.3	78.7	67.0	72.4	67.0	116.5	585.0	2478	2054	724	337.6	157.7
MEAN	2.78	2.62	2.16	2.34	2.39	3.76	19.5	79.9	68.5	23.4	10.9	5.26
MAX	4.0	3.8	3.0	3.0	3.5	4.5	41	167	119	45	25	8.0
MIN	2.2	1.5	1.5	1.4	1.5	3.0	3.0	25	36	15	6.8	4.2
AC-FT	171	156	133	144	133	231	1160	4920	4070	1440	670	313

CAL YR 1978 TOTAL 2112.30 MEAN 5.79 MAX 40 MIN .90 AC-FT 4190
WTR YR 1979 TOTAL 6824.20 MEAN 18.7 MAX 167 MIN 1.4 AC-FT 13540

NOTE.--NO GAGE-HEIGHT RECORD DEC. 3 TO APR. 6.

08236000 ALAMOSA CREEK ABOVE TERRACE RESERVOIR, CO

LOCATION.--Lat 37°22'29", long 106°20'03", in NW¼NE¼ sec.17, T.36 N., R.6 E., Conejos County, Hydrologic Unit 13010002, on left bank 0.8 mi (1.3 km) upstream from high-water line of Terrace Reservoir at elevation 8,568 ft (2,611.5 m), 3.0 mi (4.8 km) downstream from French Creek, and 15 mi (24 km) northwest of Capulin.

DRAINAGE AREA.--107 mi^2 (277 km^2).

PERIOD OF RECORD.--September 1911 to September 1912 (published as Rio Alamosa near Monte Vista), May to June 1914, April 1915 to September 1927, October 1934 to current year. No winter records water years 1919-23. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 898: 1911(M). WSP 1312: 1935(M), 1944(M).

GAGE.--Water-stage recorder. Altitude of gage is 8,600 ft (2,621 m), from topographic map. See WSP 1712 or 1732 for history of changes prior to Oct. 1, 1927.

REMARKS.--Records good except those for winter period, which are poor. No diversion above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--53 years (water years 1912, 1916-18, 1924-27, 1935-79), 111 ft^3/s (3.144 m^3/s), 80,420 acre-ft/yr (99.2 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,200 ft^3/s (147 m^3/s) Oct. 5, 1911, gage height, 11.0 ft (3.353 m), site and datum then in use, from floodmark, from rating curve extended above 1,000 ft^3/s (28 m^3/s), on basis of computation of peak flow over dam about 8 mi (13 km) upstream; minimum not determined.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1854, that of Oct. 5, 1911, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,280 ft^3/s (36.2 m^3/s) at 0200 June 7, gage height, 3.50 ft (1.067 m), only peak above base of 670 ft^3/s (19 m^3/s); maximum gage height, 3.54 ft (1.079 m) at 2130 June 6 (backwater from log jam); minimum daily, 9.0 ft^3/s (0.26 m^3/s) Jan. 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	12	12	11	10	12	20	172	710	728	106	35
2	11	12	13	10	10	14	16	181	678	662	99	33
3	11	17	11	10	10	14	15	169	770	610	83	32
4	11	18	11	11	9.5	13	17	150	815	520	80	31
5	11	17	12	11	10	12	18	172	930	469	76	30
6	10	15	12	12	10	12	21	233	1020	463	72	28
7	12	14	11	11	10	12	26	265	1120	463	72	28
8	12	13	10	10	11	13	32	222	1030	469	69	28
9	11	13	9.5	10	11	14	34	178	702	415	78	27
10	11	13	12	11	11	13	33	150	540	371	106	27
11	11	17	12	11	11	12	32	126	540	345	87	26
12	11	21	13	11	11	13	27	112	685	306	110	25
13	12	12	14	11	11	15	23	112	860	288	87	23
14	12	14	13	10	12	17	36	140	1000	278	82	25
15	12	16	12	11	13	17	39	204	1030	283	112	31
16	12	14	11	12	12	17	58	249	1040	283	108	30
17	12	12	12	11	12	17	82	270	930	253	91	25
18	12	13	14	13	11	15	97	325	779	218	78	22
19	12	13	15	12	11	16	108	475	655	200	69	21
20	11	13	13	11	12	15	102	568	568	175	61	22
21	12	14	12	11	12	15	104	554	625	169	56	34
22	15	15	12	11	12	15	114	568	702	187	52	28
23	15	14	12	11	11	15	138	640	770	175	49	26
24	15	13	13	10	11	14	145	685	753	160	48	24
25	17	13	13	12	11	15	155	655	744	155	45	23
26	14	13	12	12	11	17	160	753	719	150	45	21
27	12	12	12	11	13	21	160	770	719	138	46	21
28	11	12	13	10	12	22	166	753	710	140	42	22
29	11	11	14	11	---	22	172	842	694	150	40	20
30	11	12	13	10	---	19	163	940	719	138	38	20
31	12	---	12	9.0	---	20	---	788	---	117	39	---
TOTAL	373	418	380.5	338.0	311.5	478	2307	12421	23557	9478	2226	788
MEAN	12.0	13.9	12.3	10.9	11.1	15.4	76.9	401	785	306	71.8	26.3
MAX	17	21	15	13	13	22	172	940	1120	728	112	35
MIN	10	11	9.5	9.0	9.5	12	15	112	540	117	38	20
AC-FT	740	829	755	670	618	948	4580	24640	46730	18800	4420	1560

CAL YR 1978 TOTAL 25745.5 MEAN 70.5 MAX 575 MIN 7.5 AC-FT 51070
WTR YR 1979 TOTAL 53076.0 MEAN 145 MAX 1120 MIN 9.0 AC-FT 105300

NOTE.--NO GAGE-HEIGHT RECORD DEC. 15 TO MAR. 26.

08238000 LA JARA CREEK AT GALLEGOS RANCH, NEAR CAPULIN, CO

LOCATION.--Lat 37°12'32", long 106°11'16", in NE¼ sec.10, T.34 N., R.7 E., Conejos County, Hydrologic Unit 13010002, on left bank 2.7 mi (4.3 km) downstream from Canyon Del Rancho, 7 mi (11 km) southwest of Capulin, and 16.5 mi (26.5 km) downstream from La Jara Reservoir.

DRAINAGE AREA.--98 mi² (250 km²), approximately.

PERIOD OF RECORD.--April 1916 to November 1917, April 1919 to November 1923, May 1936 to current year. No winter records prior to 1950 except water year 1944. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1242: Drainage area. WSP 1732: 1952.

GAGE.--Water-stage recorder. Altitude of gage is 8,130 ft (2,478 m), from topographic map. Apr. 1, 1916, to Nov. 30, 1917, and Apr. 1, 1919, to Nov. 30, 1923, near present site at different datum.

REMARKS.--Records good except those for winter period, which are poor. Small diversions above station for irrigation. Flow regulated by La Jara Reservoir, capacity, 14,040 acre-ft (17.3 hm³). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--31 years (water years 1944, 1950-79), 15.4 ft³/s (0.436 m³/s), 11,160 acre-ft/yr (13.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 653 ft³/s (18.5 m³/s) Apr. 22, 1919, gage height, 3.22 ft (0.981 m), site and datum then in use, Apr. 15, 1937, gage height, 5.94 ft (1.811 m); maximum gage height, 6.12 ft (1.865 m) Aug. 11, 1961; minimum daily discharge, 2.0 ft³/s (0.057 m³/s) Jan. 10, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 167 ft³/s (4.73 m³/s) May 28, gage height, 3.74 ft (1.140 m); minimum daily, 2.5 ft³/s (0.071 m³/s) Dec. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.7	5.0	4.0	4.0	3.5	5.5	6.0	90	68	16	6.8	5.0
2	4.6	5.0	4.5	3.5	3.5	6.0	5.5	95	57	16	6.8	5.0
3	4.4	5.6	4.0	4.0	3.5	6.0	6.0	84	54	15	6.4	5.0
4	4.6	6.0	4.0	4.0	3.5	5.5	6.0	64	47	14	6.2	4.8
5	4.6	5.0	4.0	4.5	3.5	5.0	7.0	75	42	13	6.0	4.8
6	5.0	4.8	4.0	5.0	3.5	5.5	8.0	88	42	13	6.0	4.8
7	5.4	4.6	3.5	4.5	3.5	6.0	9.5	96	39	13	6.0	4.8
8	5.6	4.6	2.5	4.0	4.0	6.0	9.0	83	40	13	5.8	5.0
9	5.6	4.6	3.0	4.0	4.0	5.5	10	72	51	12	5.8	4.8
10	5.6	4.6	3.5	4.5	4.0	5.5	10	62	34	11	6.8	4.8
11	5.6	5.0	3.5	4.5	4.0	5.5	9.5	54	28	10	7.0	4.8
12	5.2	5.6	4.0	4.5	4.0	5.5	8.8	48	27	9.5	6.8	4.8
13	4.8	4.7	5.0	3.5	4.0	5.5	8.2	48	33	9.2	6.4	4.8
14	4.8	3.8	4.5	3.0	4.5	6.0	10	64	31	9.5	6.8	5.0
15	4.8	4.8	4.5	3.5	5.0	6.5	11	80	30	9.2	9.0	5.8
16	4.8	4.2	4.5	3.5	4.5	6.5	12	87	28	9.8	8.0	5.6
17	4.8	4.0	4.5	3.5	4.5	6.5	15	91	26	11	7.0	5.2
18	4.8	4.1	5.0	3.5	4.5	6.0	25	84	25	9.8	6.8	5.0
19	4.8	4.2	5.0	3.5	4.5	6.0	36	108	26	9.5	6.4	5.0
20	4.8	4.6	5.0	3.0	5.0	6.0	24	124	26	9.2	6.0	5.0
21	5.0	4.8	4.5	3.0	5.0	6.0	25	130	24	8.2	5.4	5.6
22	5.8	5.0	4.5	3.0	4.5	6.0	37	113	20	8.0	5.4	5.6
23	5.8	4.6	4.5	3.0	4.5	5.5	50	119	19	8.0	5.4	5.4
24	5.6	4.2	4.5	3.0	4.5	5.5	74	106	19	7.5	5.4	5.2
25	5.6	4.2	4.5	3.5	4.5	5.5	89	96	20	7.2	5.4	5.2
26	5.4	4.0	4.5	3.5	5.0	6.0	82	99	19	7.2	5.2	5.0
27	5.4	4.0	4.5	3.5	5.0	6.0	79	91	17	7.2	6.2	5.0
28	5.4	4.0	4.5	3.0	5.0	6.5	106	122	17	7.5	5.6	5.2
29	5.0	4.0	5.0	3.0	---	6.5	104	102	17	7.8	4.8	5.2
30	5.0	4.0	5.0	3.0	---	6.0	91	93	16	8.0	5.0	5.4
31	5.0	---	4.5	3.0	---	6.0	---	87	---	7.2	5.0	---
TOTAL	158.3	137.6	133.0	112.5	119.0	182.0	973.5	2755	942	316.5	191.6	152.6
MEAN	5.11	4.59	4.29	3.63	4.25	5.87	32.5	88.9	31.4	10.2	6.18	5.09
MAX	5.8	6.0	5.0	5.0	5.0	6.5	106	130	68	16	9.0	5.8
MIN	4.4	3.8	2.5	3.0	3.5	5.0	5.5	48	16	7.2	4.8	4.8
AC-FT	314	273	264	223	236	361	1930	5460	1870	628	380	303

CAL YR 1978 TOTAL 3452.9 MEAN 9.46 MAX 65 MIN 2.5 AC-FT 6850
WTR YR 1979 TOTAL 6173.6 MEAN 16.9 MAX 130 MIN 2.5 AC-FT 12250

NOTE.--NO GAGE-HEIGHT RECORD NOV. 30 TO APR. 9.

08240000 RIO GRANDE ABOVE MOUTH OF TRINCHERA CREEK, NEAR LA SAUSES, CO

LOCATION.--Lat 37°18'58", long 105°44'32", in sec.35, T.36 N., R.11 E., Conejos County, Hydrologic Unit 13010002, on right bank 0.2 mi (0.3 km) upstream from Trinchera Creek, 3.2 mi (5.1 km) north of Lasauses, and 13 mi (21 km) southeast of Alamosa.

DRAINAGE AREA.--5,740 mi² (14,900 km²), approximately, includes 2,940 mi² (7,610 km²) in closed basin in northern part of San Luis Valley, Colo.

PERIOD OF RECORD.--May 1936 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 7,500 ft (2,286 m), estimated from nearby level lines.

REMARKS.--Records good except those for winter period, which are poor. Natural flow of stream affected by transmountain diversions, storage reservoirs, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--43 years, 243 ft³/s (6.882 m³/s), 176,100 acre-ft/yr (217 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,470 ft³/s (155 m³/s) June 21, 1949, gage height, 9.50 ft (2.896 m), from rating curve extended above 3,600 ft³/s (100 m³/s); minimum daily, 0.4 ft³/s (0.011 m³/s) July 4, 1940.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,780 ft³/s (78.7 m³/s) at 1200 June 11, gage height, 7.75 ft (2.362 m); minimum daily, 34 ft³/s (0.96 m³/s) Sept. 23-25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	96	218	140	140	145	155	340	662	2270	1520	802	100
2	94	211	140	130	140	161	315	642	2310	1490	739	94
3	90	233	140	130	140	164	295	654	2110	1520	682	88
4	93	235	155	120	140	171	292	714	1880	1530	592	82
5	94	248	145	120	140	177	282	690	1880	1480	528	77
6	101	258	140	120	145	177	288	702	1980	1510	510	72
7	96	248	60	120	145	170	308	766	2050	1430	486	62
8	93	239	55	115	145	166	335	834	2140	1390	501	56
9	93	228	90	115	145	175	378	896	2390	1420	486	52
10	91	218	110	120	145	179	441	806	2640	1440	471	50
11	90	224	110	120	145	177	483	706	2760	1410	456	46
12	90	224	110	120	145	182	453	690	2500	1340	435	46
13	96	226	130	120	140	194	426	642	2170	1280	420	47
14	100	270	135	130	135	205	398	606	2080	1140	501	44
15	111	265	135	130	130	216	390	606	2190	990	498	44
16	205	222	135	130	130	242	465	634	2370	925	519	45
17	290	216	140	130	140	268	558	642	2540	1080	592	43
18	368	214	145	130	140	290	670	674	2470	1210	650	41
19	423	201	145	135	140	308	806	706	2360	1330	592	42
20	465	192	145	135	135	330	906	766	2140	1400	575	41
21	486	190	150	145	145	335	960	915	1970	1400	564	39
22	507	192	150	145	150	365	985	965	1880	1350	534	38
23	528	201	140	150	150	358	975	1040	1760	1220	513	34
24	495	209	140	150	155	385	980	1200	1690	1150	480	34
25	400	214	140	150	155	441	945	1380	1690	1060	432	34
26	370	216	140	145	155	471	834	1480	1710	990	398	35
27	368	197	140	150	160	375	757	1610	1700	940	582	35
28	345	182	140	155	160	365	690	1630	1700	896	222	35
29	322	144	140	145	---	368	642	1780	1690	847	179	35
30	302	132	140	145	---	372	646	1950	1620	824	139	36
31	253	---	135	150	---	355	---	2190	---	838	114	---
TOTAL	7555	6467	4060	4140	4040	8297	17243	30178	62640	38350	15192	1527
MEAN	244	216	131	134	144	268	575	973	2088	1237	490	50.9
MAX	528	270	155	155	160	471	985	2190	2760	1530	802	100
MIN	90	132	55	115	130	155	282	606	1620	824	114	34
AC-FT	14990	12830	8050	8210	8010	16460	34200	59860	124200	76070	30130	3030

CAL YR 1978 TOTAL 50119 MEAN 137 MAX 528 MIN 26 AC-FT 99410
WTR YR 1979 TOTAL 199689 MEAN 547 MAX 2760 MIN 34 AC-FT 396100

08240500 TRINCHERA CREEK ABOVE TURNERS RANCH, NEAR FORT GARLAND, CO

LOCATION.--Lat 37°22'29", long 105°17'40", Costilla County, Hydrologic Unit 13010002, in Sangre de Cristo Grant, on right bank 0.9 mi (1.4 km) downstream from North Fork, 1.0 mi (1.6 km) upstream from Turners Ranch, and 8.3 mi (13.4 km) southeast of Fort Garland.

DRAINAGE AREA.--45 mi^2 (120 km^2), approximately.

PERIOD OF RECORD.--April 1923 to current year. No winter records prior to 1935 except water year 1928. Monthly discharge only for some periods, published in WSP 1312.

GAGE.--Water-stage recorder. Altitude of gage is 8,520 ft (2,597 m), from topographic map. Prior to Apr. 12, 1929, at site 200 ft (60 m) upstream at different datum.

REMARKS.--Records good except those for winter period, which are poor. No regulation or diversion above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--46 years (1928, 1935-79), 22.5 ft^3/s (0.637 m^3/s), 16,300 acre-ft/yr (20.1 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 689 ft^3/s (19.5 m^3/s) May 27, 1942, gage height, 3.32 ft (1.012 m), from rating curve extended above 240 ft^3/s (6.8 m^3/s); maximum gage height, 3.73 ft (1.137 m) May 10, 1947; minimum daily discharge recorded, 3.0 ft^3/s (0.085 m^3/s) Oct. 3, 1942.

EXTREMES OUTSIDE PERIOD OF RECORD.--Outstanding floods occurred in 1886 and in October 1911. The flood in 1886 probably exceeded that in October 1911 and the flood in October 1911 probably exceeded all subsequent floods, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 236 ft^3/s (6.68 m^3/s) at 1930 June 8, gage height, 3.07 ft (0.936 m), only peak above base of 50 ft^3/s (1.4 m^3/s); minimum daily, 5.0 ft^3/s (0.14 m^3/s) Jan. 30, 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.9	8.2	9.6	5.5	6.0	6.5	7.6	31	186	110	26	16
2	7.9	8.2	8.6	5.5	6.0	7.5	8.0	34	173	105	25	16
3	7.9	9.3	8.0	6.0	5.5	6.0	7.5	35	156	98	23	14
4	8.2	9.6	8.5	6.0	5.5	6.0	8.0	36	162	92	22	14
5	8.2	9.0	8.5	7.0	5.5	6.5	8.5	41	165	88	21	14
6	8.2	8.6	7.0	7.0	6.0	6.5	9.0	47	172	82	21	14
7	7.9	7.9	5.5	6.0	6.0	7.0	10	54	173	77	21	13
8	7.9	7.9	5.5	6.0	6.0	7.5	11	57	200	71	21	13
9	7.9	7.9	6.0	6.0	6.0	6.5	12	55	208	67	23	13
10	7.6	7.9	6.5	6.5	5.5	6.5	11	48	210	64	23	13
11	7.6	8.2	6.0	7.0	6.0	6.5	10	43	198	61	21	13
12	7.6	8.2	6.0	7.0	6.5	6.5	10	38	188	57	20	13
13	7.6	6.2	6.5	6.5	6.5	6.5	9.5	37	189	54	21	13
14	7.6	8.2	6.0	7.0	7.0	7.0	10	38	205	51	31	18
15	7.6	7.9	6.0	7.5	8.0	6.5	12	44	215	50	33	17
16	7.6	7.5	7.0	7.5	8.0	7.0	16	51	217	49	28	17
17	7.2	7.0	8.0	7.5	6.5	6.5	18	67	211	46	24	17
18	7.2	8.0	8.5	7.5	6.5	6.5	23	79	200	44	24	16
19	7.2	9.0	8.0	7.0	6.5	6.5	27	91	189	41	24	16
20	7.2	9.0	7.0	6.5	8.0	6.8	26	100	167	39	23	14
21	9.0	10	7.0	7.0	8.0	7.2	26	109	153	38	21	14
22	11	9.6	7.0	7.0	7.5	7.2	26	118	152	38	20	14
23	8.2	8.6	7.0	6.0	7.5	7.2	30	123	144	34	20	13
24	8.2	8.6	7.0	6.0	6.5	7.2	34	134	144	34	19	13
25	9.0	9.3	7.0	7.0	6.5	7.2	36	144	141	33	18	13
26	7.2	9.0	7.0	7.0	7.0	7.6	35	161	136	32	20	13
27	8.2	9.0	7.0	6.0	6.5	7.6	36	178	129	31	21	13
28	8.6	8.5	8.5	6.5	6.5	7.9	37	189	123	31	18	13
29	8.2	9.5	8.5	6.0	---	7.2	35	194	122	30	17	13
30	8.2	10	7.5	5.0	---	7.6	33	196	118	28	17	13
31	8.2	---	6.5	5.0	---	7.6	---	194	---	26	16	---
TOTAL	248.0	255.8	222.7	201.0	183.5	214.3	582.1	2766	5146	1701	682	426
MEAN	8.00	8.53	7.18	6.48	6.55	6.91	19.4	89.2	172	54.9	22.0	14.2
MAX	11	10	9.6	7.5	8.0	7.9	37	196	217	110	33	18
MIN	7.2	6.2	5.5	5.0	5.5	6.0	7.5	31	118	26	16	13
AC-FT	492	507	442	399	364	425	1150	5490	10210	3370	1350	845

CAL YR 1978 TOTAL 6974.7 MEAN 19.1 MAX 88 MIN 5.5 AC-FT 13830
WTR YR 1979 TOTAL 12628.4 MEAN 34.6 MAX 217 MIN 5.0 AC-FT 25050

NOTE.--NO GAGE-HEIGHT RECORD DEC. 14 TO MAR. 20.

08241500 SANGRE DE CRISTO CREEK NEAR FORT GARLAND, CO

LOCATION.--Lat 37°25'30", long 105°24'52", Costilla County, Hydrologic Unit 13010002, in Sangre de Cristo Grant, on left bank at road bridge, 2,200 ft (670 m) upstream from Garland Canal, 1.0 mi (1.6 km) east of Fort Garland, and 6.3 mi (10.1 km) upstream from Ute Creek.

DRAINAGE AREA.--190 mi² (490 km²), approximately.

PERIOD OF RECORD.--March to October 1916, May 1923 to September 1930, October 1931 to current year. No winter records prior to 1946 except water year 1941. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1312: 1935(M), 1950(M).

GAGE.--Water-stage recorder. Altitude of gage is 7,900 ft (2,408 m), from topographic map. Mar. 15 to Oct. 9, 1916, nonrecording gage and Cippoletti weir at site 1,400 ft (430 m) downstream at different datum. May 7, 1923, to Feb. 29, 1964, water-stage recorder at site 1.0 mi (1.6 km) upstream at different datum.

REMARKS.--Records good except those for winter period and those for period July 26 to September 30, which are fair. Diversions above station by Sangre de Cristo-Trinchera canal for irrigation below station. Diversion above station from West Indian Creek to Mountain Home Reservoir on Trinchera Creek. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--35 years (water years 1941, 1946-79), 17.8 ft³/s (0.504 m³/s), 12,900 acre-ft/yr (15.9 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,520 ft³/s (43.0 m³/s) Aug. 31, 1936, gage height, 6.10 ft (1.859 m), site and datum then in use, from rating curve extended above 280 ft³/s (7.9 m³/s) on basis of slope-area measurement of peak flow; maximum gage height, 7.82 ft (2.384 m) June 4, 1957, site and datum then in use; no flow at times in many years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Outstanding floods occurred in 1886 and in October 1911. The flood in 1886 probably exceeded that in October 1911 and the flood in October 1911 probably exceeded all subsequent floods, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 182 ft³/s (5.15 m³/s) Apr. 19, gage height, 2.60 ft (0.792 m); minimum daily, 0.38 ft³/s (0.011 m³/s) Oct. 1, Nov. 2, 5-7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.38	.50	2.0	3.0	4.0	4.4	14	85	65	9.2	14	6.5
2	.50	.38	3.7	3.0	4.0	5.4	14	85	67	8.8	13	6.2
3	.50	.75	2.2	3.5	4.0	5.4	14	87	65	8.3	12	5.8
4	.50	.50	1.0	3.5	4.0	4.8	11	83	52	8.3	10	5.4
5	.50	.38	2.0	4.0	4.0	4.8	12	78	45	7.8	8.8	5.1
6	.50	.38	1.5	4.0	4.5	4.8	16	83	43	7.8	8.5	4.4
7	.75	.38	1.0	3.5	4.5	5.4	28	91	40	9.2	8.3	4.0
8	.75	.50	.50	3.5	4.5	7.8	40	99	47	9.2	7.7	3.7
9	.75	.50	.50	3.5	4.5	9.5	45	115	94	11	9.2	3.7
10	.75	.50	.75	3.5	4.5	9.0	36	100	68	19	12	3.7
11	.50	.50	1.8	4.0	5.0	9.0	31	85	62	18	10	3.4
12	.50	.50	2.0	4.0	5.0	11	28	70	56	18	8.8	4.8
13	.50	.50	1.8	3.5	5.5	12	25	62	51	16	7.6	7.0
14	.50	.50	1.8	4.0	5.5	14	26	59	47	16	18	8.8
15	.50	.50	2.0	5.0	6.0	14	36	61	51	16	29	9.6
16	.50	.50	2.0	5.0	6.0	16	55	73	47	23	23	8.8
17	.50	.50	1.8	5.0	5.0	17	75	88	42	29	17	7.0
18	.50	.50	1.8	5.0	5.0	14	113	108	39	25	16	6.2
19	.50	.50	2.2	4.5	5.0	12	147	117	38	26	16	5.4
20	.50	.50	2.2	4.0	6.0	14	119	129	38	23	14	5.4
21	.75	1.2	2.5	4.0	6.0	13	105	130	29	22	12	5.4
22	.75	2.2	2.5	4.0	5.5	12	102	114	21	22	11	6.2
23	.50	3.0	2.5	4.0	5.0	12	122	113	19	20	9.6	5.8
24	.75	2.8	2.5	4.0	4.8	11	135	113	18	18	9.2	5.1
25	1.0	4.0	3.0	4.5	4.4	12	138	116	18	18	8.8	4.8
26	.75	3.0	3.0	4.5	4.8	14	125	97	16	17	9.6	4.4
27	.75	2.2	3.0	4.0	5.4	16	112	92	16	17	12	4.4
28	.75	1.8	3.5	4.0	5.1	16	114	93	14	16	9.6	4.8
29	.50	1.5	3.5	4.0	---	18	112	93	9.6	16	8.3	4.8
30	.50	2.0	3.5	3.5	---	14	96	84	9.2	16	7.4	4.8
31	.50	---	3.0	3.5	---	18	---	71	---	14	7.0	---
TOTAL	18.38	33.47	67.05	123.0	137.5	350.3	2046	2874	1226.8	504.6	367.4	165.4
MEAN	.59	1.12	2.16	3.97	4.91	11.3	68.2	92.7	40.9	16.3	11.9	5.51
MAX	1.0	4.0	3.7	5.0	6.0	18	147	130	94	29	29	9.6
MIN	.38	.38	.50	3.0	4.0	4.4	11	59	9.2	7.8	7.0	3.4
AC-FT	36	66	133	244	273	695	4060	5700	2430	1000	729	328

CAL YR 1978 TOTAL 1615.20 MEAN 4.43 MAX 28 MIN .20 AC-FT 3200
WTR YR 1979 TOTAL 7913.90 MEAN 21.7 MAX 147 MIN .38 AC-FT 15700

NOTE.--NO GAGE-HEIGHT RECORD JAN. 9 TO FEB. 23.

08242500 UTE CREEK NEAR FORT GARLAND, CO

LOCATION.--Lat 37°26'50", long 105°25'30", Costilla County, Hydrologic Unit 13010002, in Sangre de Cristo Grant, on left bank 2,300 ft (700 m) upstream from Newton ditch, 1.4 mi (2.3 km) north of Fort Garland, and 5.7 mi (9.2 km) upstream from mouth.

DRAINAGE AREA.--32 mi² (83 km²), approximately.

PERIOD OF RECORD.--March to October 1916, May 1923 to current year. Monthly discharge only for some periods, published in WSP 1312.

GAGE.--Water-stage recorder. Altitude of gage is 8,045 ft (2,452 m), from topographic map. Mar. 18 to Oct. 9, 1916, nonrecording gage and Cippoletti weir at different datum.

REMARKS.--Records good except those for winter period, which are poor. A few diversions above station for irrigation. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--56 years (water years 1924-79), 19.9 ft³/s (0.564 m³/s), 14,420 acre-ft/yr (17.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 630 ft³/s (17.8 m³/s) May 15, 1941; no flow July 28-31, Sept. 6-29, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Outstanding floods occurred in 1886 and in October 1911. The flood in 1886 probably exceeded that in October 1911 and the flood in October 1911 probably exceeded all subsequent floods, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 205 ft³/s (5.01 m³/s) June 8, gage height, 3.24 ft (0.988 m), only peak above base of 100 ft³/s (2.8 m³/s); minimum daily, 2.4 ft³/s (0.068 m³/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	5.2	5.0	3.0	3.5	4.0	8.7	57	75	97	32	14
2	3.1	5.2	4.5	3.0	3.5	4.5	7.8	56	73	95	31	13
3	3.1	8.7	4.0	3.5	3.0	4.0	7.0	59	74	89	28	13
4	3.2	7.8	4.5	3.5	3.0	3.5	6.6	60	78	74	28	12
5	3.2	6.6	4.5	4.5	3.0	4.0	8.4	61	80	67	28	12
6	3.4	5.7	4.0	4.0	3.5	4.0	15	67	83	61	28	11
7	3.4	5.0	3.0	3.5	3.5	4.5	18	78	95	63	28	10
8	3.4	5.2	3.0	3.5	3.5	4.5	18	77	129	59	28	10
9	3.1	5.0	3.5	3.5	3.5	4.0	18	77	133	57	28	10
10	3.1	5.2	3.5	4.0	3.5	4.0	16	61	106	53	26	9.9
11	3.1	5.9	3.5	4.0	3.5	4.5	11	56	102	53	25	9.9
12	3.2	6.8	3.5	4.0	4.0	5.0	13	44	110	53	25	12
13	3.1	4.7	3.5	3.5	4.0	5.5	12	38	111	53	25	11
14	3.2	5.4	3.5	4.0	4.0	6.5	16	39	133	53	38	12
15	3.2	6.1	3.5	4.5	4.5	7.0	18	48	135	52	53	11
16	3.2	5.2	3.5	4.5	4.5	8.1	22	60	135	52	42	9.6
17	3.2	4.8	4.0	4.5	4.0	8.1	27	78	125	53	33	8.7
18	3.1	4.7	4.5	4.5	4.0	7.3	38	89	121	51	27	8.1
19	3.1	4.8	4.5	4.0	4.0	6.6	48	106	104	53	24	8.1
20	3.1	4.7	3.5	3.5	4.5	6.8	39	102	89	46	21	7.8
21	3.6	4.8	3.5	3.5	4.5	6.8	36	97	91	46	18	7.3
22	5.9	4.7	3.5	3.5	4.0	5.9	42	104	101	52	16	6.1
23	4.7	4.5	3.5	3.0	4.0	6.6	59	115	108	51	17	5.4
24	6.1	4.5	3.5	3.0	3.5	6.4	77	135	129	47	16	5.2
25	9.0	5.0	3.5	4.0	3.5	7.5	68	145	119	46	15	7.0
26	5.7	5.0	3.5	4.0	4.0	9.0	59	141	115	44	16	7.5
27	5.9	4.7	3.5	3.0	3.5	10	56	127	111	43	16	7.5
28	6.1	4.5	4.5	3.5	3.5	11	62	123	108	41	15	7.5
29	5.7	4.5	4.5	3.0	---	11	61	149	104	41	14	7.3
30	5.4	4.5	4.0	2.5	---	10	57	133	102	36	14	6.8
31	5.4	---	3.5	2.5	---	11	---	97	---	33	14	---
TOTAL	126.4	159.4	118.0	112.5	105.0	201.6	944.5	2679	3179	1714	769	280.7
MEAN	4.08	5.31	3.81	3.63	3.75	6.50	31.5	86.4	106	55.3	24.8	9.36
MAX	9.0	8.7	5.0	4.5	4.5	11	77	149	135	97	53	14
MIN	2.4	4.5	3.0	2.5	3.0	3.5	6.6	38	73	33	14	5.2
AC-FT	251	316	234	223	208	400	1870	5310	6310	3400	1530	557

CAL YR 1978 TOTAL 4244.0 MEAN 11.6 MAX 63 MIN 1.2 AC-FT 8420
WTR YR 1979 TOTAL 10389.1 MEAN 28.5 MAX 149 MIN 2.4 AC-FT 20610

NOTE.--NO GAGE-HEIGHT RECORD NOV. 28 TO MAR. 15.

08243500 TRINCHERA CREEK BELOW SMITH RESERVOIR, NEAR BLANCA, CO

LOCATION.--Lat 37°23'10", long 105°33'02", in sec.4, T.31 S., R.73 W. (unsurveyed), Costilla County, Hydrologic Unit 13010002, on right bank 150 ft (46 m) downstream from bridge, 0.6 mi (1.0 km) downstream from Smith Reservoir, and 4.0 mi (6.4 km) southwest of Blanca.

DRAINAGE AREA.--396 mi² (1,026 km²).

PERIOD OF RECORD.--October 1928 to current year. No winter records prior to 1944 except water years 1931, 1934-36, 1938. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1512: 1937, 1950(M).

GAGE.--Water-stage recorder. Altitude of gage is 7,700 ft (2,347 m), estimated from nearby U.S. Coast and Geodetic Survey level lines. Prior to Oct. 12, 1964, at site 200 ft (61 m) downstream. Prior to Apr. 19, 1943, at datum 1.00 ft (0.305 m) higher, and at present datum thereafter.

REMARKS.--Records good. Diversions above station for irrigation. Flow regulated by Smith Reservoir, capacity, 5,335 acre-ft (6.58 hm³). Several observations of water temperature were obtained and are published elsewhero in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--41 years (1930-31, 1933-36, 1937-38, 1943-79), 9.96 ft³/s (0.282 m³/s), 7,220 acre-ft/yr (8.902 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,340 ft³/s (37.9 m³/s) May 11, 1942; no flow Sept. 13, 14, 16, 17, 1957.

EXTREMES OUTSIDE PERIOD OF RECORD.--Outstanding floods occurred in 1886 and October 1911. The flood in 1886 probably exceeded that in October 1911 and the flood in 1911 probably exceeded all subsequent floods, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 132 ft³/s (4.02 m³/s) May 30, gage height, 3.64 ft (1.109 m); minimum daily, 0.05 ft³/s (0.001 m³/s) Oct. 20-28, Nov. 1, 2, 6-9, 17-19, 21-Dec. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.35	.05	.05	.10	.11	.15	.15	14	67	14	2.8	3.0
2	.35	.05	.05	.10	.11	.15	.15	16	55	14	2.8	3.0
3	.35	.15	.05	.09	.11	.16	.15	15	52	16	2.8	3.3
4	.35	.25	.05	.09	.12	.17	.15	16	51	15	2.8	3.3
5	.35	.15	.05	.09	.12	.17	.15	14	46	14	2.8	4.2
6	.35	.05	.07	.09	.12	.18	.15	17	39	12	12	5.5
7	.50	.05	.08	.09	.12	.18	.15	25	35	11	18	5.5
8	.50	.05	.09	.09	.12	.19	.15	39	41	10	14	5.5
9	.50	.05	.10	.09	.12	.20	.15	75	78	8.6	7.0	5.5
10	.50	.11	.11	.09	.12	.20	.15	85	119	9.0	7.0	5.5
11	.50	.15	.12	.09	.12	.21	.15	82	123	7.8	7.0	5.5
12	.50	.15	.13	.09	.12	.22	.15	66	99	5.8	7.0	5.2
13	.50	.15	.13	.09	.12	.22	.15	54	74	4.8	7.0	3.9
14	.50	.15	.13	.09	.12	.25	.15	46	65	4.8	7.0	3.9
15	.35	.15	.13	.10	.12	.25	.15	36	68	4.4	7.0	4.4
16	.25	.15	.12	.10	.12	.35	.15	30	68	4.4	7.4	5.2
17	.25	.05	.12	.10	.12	.25	.15	30	65	7.0	7.4	5.2
18	.15	.05	.12	.10	.13	.25	.25	35	56	10	7.4	5.2
19	.15	.05	.12	.10	.13	.20	12	47	42	10	7.4	4.8
20	.05	.15	.11	.10	.13	.15	28	75	34	10	7.4	4.8
21	.05	.05	.11	.11	.13	.15	14	84	27	10	7.4	4.8
22	.05	.05	.11	.11	.13	.15	14	91	17	10	7.4	4.8
23	.05	.05	.11	.11	.14	.15	14	85	15	10	7.4	4.8
24	.05	.05	.10	.11	.14	.15	14	87	14	10	7.4	4.8
25	.05	.05	.10	.11	.14	.15	14	105	13	16	7.4	4.8
26	.05	.05	.10	.11	.14	.15	14	125	12	21	7.4	4.8
27	.05	.05	.10	.11	.14	.15	13	124	12	21	7.8	5.2
28	.05	.05	.10	.11	.14	.15	12	118	13	21	8.6	5.2
29	.15	.05	.10	.11	---	.15	12	104	13	21	9.5	5.2
30	.15	.05	.10	.11	---	.15	12	102	12	13	6.2	5.2
31	.15	---	.10	.11	---	.15	---	86	---	2.8	5.8	---
TOTAL	8.15	2.66	3.06	3.09	3.50	5.75	175.80	1928	1425	348.4	226.3	142.0
MEAN	.26	.089	.099	.10	.13	.19	5.86	62.2	47.5	11.2	7.30	4.73
MAX	.50	.25	.13	.11	.14	.35	28	125	123	21	18	5.5
MIN	.05	.05	.05	.09	.11	.15	.15	14	12	2.8	2.8	3.0
AC-FT	16	5.3	6.1	6.1	6.9	11	349	3820	2830	691	449	282

CAL YR 1978 TOTAL 573.88 MEAN 1.57 MAX 14 MIN .05 AC-FT 1140
WTR YR 1979 TOTAL 4271.71 MEAN 11.7 MAX 125 MIN .05 AC-FT 8470

NOTE.--NO GAGE-HEIGHT RECORD JAN. 24 TO MAR. 11, MAR. 12-15, 18-20, JULY 6-8.

08244500 PLATORO RESERVOIR AT PLATORO, CO

LOCATION.--Lat 37°21'07", long 106°32'38", Conejos County, Hydrologic Unit 13010005, on right bank in valvehouse, 400 ft (120 m) downstream from Platoro Dam on Conejos River and 0.7 mi (1.1 km) west of Platoro.

DRAINAGE AREA.--40 mi^2 (104 km^2), approximately.

PERIOD OF RECORD.--November 1951 to current year.

GAGE.--Nonrecording gage. Datum of gage is 9,911.5 ft (3,021.03 m), National Geodetic Vertical Datum of 1929 (levels by Water and Power Resources Service); gage readings have been reduced to elevations NGVD. Prior to June 9, 1955, nonrecording gage at present site and datum. June 9, 1955 to Sept. 30, 1959, water-stage recorder in gate chamber at dam for elevations above 9,921.0 ft (3,023.92 m) at same datum.

REMARKS.--Reservoir is formed by an earth and rockfill dam and dikes. Dam completed Dec. 9, 1951; storage began Nov. 7, 1951. Capacity of reservoir (based on revised capacity table put in use Jan. 1, 1975), 59,570 acre-ft (73.4 hm^3) between elevations 9,911.5 ft (3,021.03 m), sill of trashrack at outlet, and 10,034.0 ft (3,058.36 m), crest of spillway. No dead storage. Reservoir is used for irrigation and flood control. Figures given are usable contents.

COOPERATION.--Records furnished by Water and Power Resources Service.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 61,420 acre-ft (75.7 hm^3) June 9, 11, 1958, elevation, 10,035.5 ft (3,058.82 m); no contents for long periods in 1952-56.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 30,540 acre-ft (37.7 hm^3) July 22, 26, elevation, 9,999.4 ft (3,047.82 m); minimum contents, 2,900 acre-ft (3.58 hm^3) May 25, elevation, 9,942.8 ft (3,030.57 m).

MONTHEND ELEVATION IN FEET NGVD AND CONTENTS, AT 1000, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

Date	Elevation	Contents (acre-feet)	Change in (acre-feet)
Sept. 30	9,970.7	13,560	-
Oct. 31	9,970.8	13,610	+50
Nov. 30	a		
Dec. 31	a		
CAL YR 1978			-
Jan. 31	a		
Feb. 28	a		
Mar. 31	a		
Apr. 30	9,974.4	15,390	+1,780
May 31	9,954.0	6,420	-8,970
June 30	9,992.0	25,530	+19,110
July 31	9,999.2	30,400	+4,870
Aug. 31	9,999.3	30,480	+80
Sept. 30	9,999.3	30,480	0
WTR YR 1979			+16,920

a Operation of reservoir suspended Nov. 20 (elevation 9,970.8 ft; contents 13,610 acre-ft); resumed Apr. 5.

08245000 CONEJOS RIVER BELOW PLATORO RESERVOIR, CO

LOCATION.--Lat 37°21'18", long 106°32'37", Conejos County, Hydrologic Unit 13010005, on left bank 1,100 ft (340 m) downstream from valvehouse for Platoro Reservoir and 0.7 mi (1.1 km) northwest of Platoro.

DRAINAGE AREA.--40 mi² (100 km²), approximately.

PERIOD OF RECORD.--May 1952 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 9,866.60 ft (3,007.340 m), National Geodetic Vertical Datum of 1929 (levels by Water and Power Resources Service).

REMARKS.--Records good except those for period of no gage-height record, which are fair. No diversion above station. Flow completely regulated by Platoro Reservoir (station 08244500). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--27 years, 87.7 ft³/s (2.484 m³/s), 63,540 acre-ft/yr (78.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,160 ft³/s (32.9 m³/s) Nov. 1, 1957, gage height, 4.02 ft (1.225 m); maximum gage height, 4.29 ft (1.308 m) June 15, 1958; no flow Oct. 16-20, 1955.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 5, 1911, is the greatest since at least 1854, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 780 ft³/s (22.1 m³/s) June 25, gage height, 3.48 ft (1.061 m); minimum daily, 0.40 ft³/s (0.01 m³/s) Oct. 16-21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	7.2	5.9	6.0	6.0	13	9.0	117	398	298	90	32
2	12	6.0	5.9	6.0	6.0	13	9.0	417	418	301	86	27
3	4.8	6.0	5.9	6.0	6.0	13	9.0	622	532	304	111	24
4	2.9	6.0	5.9	6.0	6.0	13	9.0	622	350	308	109	20
5	1.0	5.8	5.9	6.0	6.0	13	9.5	618	236	486	104	13
6	.65	5.8	5.9	6.0	6.0	13	10	614	242	636	74	11
7	.45	5.8	5.9	6.0	6.0	13	10	609	245	604	53	11
8	.45	5.8	5.9	6.0	6.0	11	10	600	252	618	72	11
9	.45	5.8	5.9	6.0	6.0	9.0	10	389	165	636	128	11
10	.45	5.8	5.9	6.0	6.0	9.0	10	102	48	382	128	11
11	.45	5.8	5.9	6.0	6.0	9.0	10	69	74	426	128	11
12	.45	5.8	5.9	6.0	6.0	9.0	10	63	318	474	128	12
13	.45	5.8	5.9	6.0	10	9.0	10	60	358	442	109	15
14	.45	5.8	5.9	6.0	13	9.0	10	163	287	394	85	15
15	.45	5.8	5.9	6.0	13	9.0	10	560	121	418	76	15
16	.40	5.8	6.0	6.0	13	9.0	10	564	57	450	150	15
17	.40	5.8	6.0	6.0	13	9.0	12	568	58	336	167	15
18	.40	5.8	6.0	6.0	13	9.0	13	586	167	280	75	11
19	.40	5.8	6.0	6.0	13	9.0	13	578	398	245	38	6.7
20	.40	5.8	6.0	6.0	13	9.0	13	568	506	206	48	6.7
21	.40	5.8	6.0	6.0	13	9.0	13	542	537	194	48	13
22	.45	5.8	6.0	6.0	13	9.0	13	378	622	270	45	19
23	.45	5.8	6.0	6.0	13	9.0	13	358	720	308	46	20
24	.45	5.8	6.0	6.0	13	9.0	13	454	765	194	38	13
25	3.6	5.8	6.0	6.0	13	9.0	13	450	755	182	36	7.4
26	7.4	5.8	6.0	6.0	13	9.0	13	458	760	206	25	7.4
27	7.4	5.8	6.0	6.0	13	9.0	36	524	765	224	21	5.8
28	7.4	5.8	6.0	6.0	13	9.0	58	167	514	212	25	5.0
29	7.4	5.8	6.0	6.0	---	9.0	58	93	378	209	29	5.0
30	8.8	5.8	6.0	6.0	---	9.0	59	37	294	173	32	5.0
31	10	---	6.0	6.0	---	9.0	---	127	---	116	32	---
TOTAL	101.15	176.0	184.5	186.0	277.0	309.0	495.5	12077	11340	10532	2336	394.0
MEAN	3.26	5.87	5.95	6.00	9.89	9.97	16.5	390	378	340	75.4	13.1
MAX	20	7.2	6.0	6.0	13	13	59	622	765	636	167	32
MIN	.40	5.8	5.9	6.0	6.0	9.0	9.0	37	48	116	21	5.0
AC-FT	201	349	366	369	549	613	983	23950	22490	20890	4630	781

CAL YR 1978 TOTAL 29976.95 MEAN 82.1 MAX 700 MIN .40 AC-FT 59460
WTR YR 1979 TOTAL 38408.15 MEAN 105 MAX 765 MIN .40 AC-FT 76180

NOTE.--NO GAGE-HEIGHT RECORD NOV. 10 TO APR. 27.

08246500 CONEJOS RIVER NEAR MOGOTE, CO

LOCATION.--Lat 37°03'14", long 106°11'13", in SE¼SE¼ sec.34, T.33 N., R.7 E., Conejos County, Hydrologic Unit 13010005, on right bank 25 ft (8 m) upstream from bridge on State Highway 17, 0.4 mi (0.6 km) downstream from Fox Creek, 5.3 mi (8.5 km) west of Mogote, and 10 mi (16 km) west of Antonito.

DRAINAGE AREA.--282 mi² (730 km²).

PERIOD OF RECORD.--April 1903 to October 1905, October 1911 to current year. Monthly discharge only for some periods, published in WSP 1312. Records for March 1900 at site 5.5 mi (8.8 km) upstream and May 1905 to September 1911 (some missing periods most years) at site 3.2 mi (5.1 km) upstream not equivalent to present site due to inflow.

REVISED RECORDS.--WSP 898: 1911(M). WSP 1312: 1903-5, 1913. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 8,271.54 ft (2,521.156 m) Colorado State Highway datum. Apr. 17, 1903, to Oct. 31, 1905, nonrecording gage 500 ft (150 m) downstream at different datum. Oct. 5, 1911, to early 1915, nonrecording gage at present site and datum.

REMARKS.--Records good except those for winter period, which are fair. Diversions for irrigation of about 500 acres (2.0 km²) of hay meadows above station. Some regulation by Platoro Reservoir (station 08245000). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--70 years, 331 ft³/s (9.374 m³/s), 239,800 acre-ft/yr (296 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,000 ft³/s (255 m³/s) Oct. 5, 1911, gage height, 8.50 ft (2.591 m), from floodmarks, present site and datum, from rating curve extended above 3,100 ft³/s (88 m³/s); minimum daily determined, 10 ft³/s (0.28 m³/s) July 18, 1904.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1854, that of Oct. 5, 1911, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,590 ft³/s (73.3 m³/s) at 0830 May 28, gage height, 4.93 ft (1.503 m); minimum daily, 25 ft³/s (0.71 m³/s) Oct. 19-21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	46	43	40	39	55	60	550	1950	1680	324	101
2	45	45	46	39	40	62	55	750	1810	1630	288	98
3	44	51	35	41	39	62	57	1120	2000	1540	278	93
4	38	59	36	43	37	60	53	1050	2220	1390	288	88
5	34	53	40	43	39	58	57	1120	1870	1290	271	84
6	32	50	38	46	40	60	60	1230	2020	1530	257	75
7	32	44	32	43	40	62	79	1320	2260	1560	229	68
8	32	42	27	41	42	66	98	1230	2320	1530	218	68
9	30	42	29	41	41	68	128	1040	1950	1490	257	62
10	30	42	35	43	41	64	116	606	1290	1310	368	60
11	29	46	36	43	41	62	101	468	1190	1050	336	60
12	29	60	39	44	41	66	91	416	1480	1120	328	55
13	28	46	43	40	44	68	82	412	1930	1070	288	55
14	28	42	38	38	48	75	88	489	2170	990	268	60
15	27	53	37	43	52	77	109	1020	2160	960	299	77
16	27	46	35	47	48	75	176	1260	2120	1060	320	72
17	26	42	38	46	48	75	250	1350	1930	985	344	66
18	26	46	48	49	45	64	310	1390	1690	795	292	64
19	25	45	50	46	46	68	352	1710	1640	720	212	60
20	25	48	44	43	50	64	328	1920	1660	616	177	59
21	25	50	39	42	50	62	328	1880	1640	566	177	64
22	35	51	39	42	49	62	368	1750	1830	561	158	70
23	42	48	40	40	47	57	436	1680	2020	690	151	70
24	42	45	41	39	47	53	456	1910	2140	530	142	64
25	42	44	40	44	46	55	484	2030	2090	489	131	57
26	42	43	38	44	48	60	480	1960	2090	480	122	48
27	44	42	38	41	54	66	444	2170	2120	476	151	48
28	44	42	41	38	52	68	563	2340	2160	468	125	48
29	42	40	48	40	---	68	579	1880	1740	468	109	46
30	42	42	47	37	---	60	548	2150	1740	460	109	45
31	42	---	44	35	---	64	---	1770	---	384	109	---
TOTAL	1075	1395	1224	1301	1254	1986	7314	41971	57230	29888	7126	1985
MEAN	34.7	46.5	39.5	42.0	44.8	64.1	244	1354	1908	964	230	66.2
MAX	46	60	50	49	54	77	579	2340	2320	1680	368	101
MIN	25	40	27	35	37	53	53	412	1190	384	109	45
AC-FT	2130	2770	2430	2580	2490	3940	14510	83250	113500	59280	14130	3940

CAL YR 1978 TOTAL 89780 MEAN 246 MAX 1950 MIN 25 AC-FT 178100
WTR YR 1979 TOTAL 153749 MEAN 421 MAX 2340 MIN 25 AC-FT 305000

08247500 SAN ANTONIO RIVER AT ORTIZ, CO

LOCATION.--Lat 36°59'35", long 106°02'17", in NE¼SE¼ sec.24, T.32 N., R.8 E., Rio Arriba County, New Mexico, Hydrologic Unit 13010005, on left bank 800 ft (240 m) south of Colorado-New Mexico State line, 0.4 mi (0.6 km) southeast of Ortiz, and 0.4 mi (0.6 km) upstream from Los Pinos River.

DRAINAGE AREA.--110 mi² (280 km²), approximately.

PERIOD OF RECORD.--April 1919 to October 1920, October 1924 to current year (no winter records prior to 1941). Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1732: 1951. WSP 1923: 1927 (monthly runoff).

GAGE.--Water-stage recorder. Altitude of gage is 7,970 ft (2,429 m), from topographic map. Prior to Apr. 7, 1926, nonrecording gage at various locations near present site at different datums. Apr. 7, 1926, to June 24, 1954, water-stage recorder at site 200 ft (60 m) downstream at present datum.

REMARKS.--Records good except those for winter period, which are fair. A few small diversions above station for irrigation. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--39 years (1940-79), 24.6 ft³/s (0.697 m³/s), 17,820 acre-ft/yr (22.0 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,750 ft³/s (49.6 m³/s) Apr. 15, 1937, gage height, 5.38 ft (1.640 m), from rating curve extended above 1,100 ft³/s (31 m³/s); no flow at times in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 5, 1911, is the greatest since at least 1854, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 668 ft³/s (18.9 m³/s) May 20, gage height, 4.18 ft (1.274 m), only peak above base of 330 ft³/s (9.3 m³/s); no flow Oct. 1-21, Aug. 6-15, 29-Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	2.8	3.5	3.5	3.5	4.0	11	262	188	6.4	.80	.00
2	.00	2.8	4.0	3.5	3.5	5.0	10	298	166	5.8	.50	.00
3	.00	3.6	3.0	3.5	3.5	4.5	11	232	154	5.2	.30	.00
4	.00	7.2	2.5	4.0	3.0	4.0	9.5	198	135	5.8	.15	.00
5	.00	6.4	3.0	4.0	3.5	4.0	12	275	121	5.8	.08	.00
6	.00	5.0	2.5	4.0	4.0	4.5	14	359	113	5.0	.00	.00
7	.00	4.2	2.0	4.0	4.0	5.0	23	428	100	4.8	.00	.00
8	.00	4.0	1.5	3.5	4.5	5.5	41	353	116	4.8	.00	.00
9	.00	3.8	2.0	3.5	4.0	6.0	41	262	138	3.8	.00	.00
10	.00	3.8	2.5	4.0	4.0	5.5	30	176	90	3.4	.00	.00
11	.00	4.2	3.0	4.0	4.0	5.5	27	137	72	2.8	.00	.00
12	.00	6.8	3.5	4.0	4.0	6.0	22	120	66	2.4	.00	.00
13	.00	6.4	3.5	4.0	4.5	7.0	23	118	58	1.8	.00	.00
14	.00	4.8	3.0	3.5	5.0	9.0	23	166	52	1.3	.00	.00
15	.00	5.0	3.0	4.0	5.5	9.5	76	278	47	.80	.00	.00
16	.00	4.0	3.6	4.5	5.0	9.5	143	332	43	.80	.04	.00
17	.00	3.2	3.5	4.5	4.5	9.5	276	383	36	2.4	2.2	.00
18	.00	3.4	4.5	5.0	4.0	8.5	325	386	30	2.2	2.2	.00
19	.00	3.4	5.0	4.5	4.0	9.0	274	500	28	2.4	1.3	.00
20	.00	3.2	4.5	4.0	4.5	8.5	170	525	26	2.0	1.0	.00
21	.00	3.2	3.5	3.5	4.5	8.0	161	462	23	1.6	.60	.00
22	.11	4.0	3.5	3.5	4.5	8.0	226	455	20	1.2	.30	.00
23	3.6	3.2	4.0	3.0	4.0	8.0	317	440	18	1.0	.30	.00
24	4.0	2.8	4.0	3.0	4.0	8.0	332	472	15	.80	.15	.00
25	3.8	3.6	4.0	4.0	3.5	8.5	308	413	18	.60	.10	.00
26	4.5	3.0	3.5	4.0	4.0	9.0	292	380	15	.40	.05	.00
27	4.0	3.0	3.5	3.5	4.5	11	268	344	11	.30	.05	.00
28	4.2	3.0	4.0	3.0	4.0	12	323	359	8.9	.20	.02	.00
29	3.8	3.0	4.5	3.5	---	13	300	344	7.5	.15	.00	.00
30	3.0	3.0	4.5	3.0	---	11	242	295	6.8	2.1	.00	.00
31	2.8	---	4.0	2.5	---	12	---	232	---	1.0	.00	---
TOTAL	33.81	119.8	106.0	116.0	115.5	238.5	4330.5	9984	1922.2	79.05	10.14	.00
MEAN	1.09	3.99	3.42	3.74	4.13	7.69	144	322	64.1	2.55	.33	.000
MAX	4.5	7.2	5.0	5.0	5.5	13	332	525	188	6.4	2.2	.00
MIN	.00	2.8	1.5	2.5	3.0	4.0	9.5	118	6.8	.15	.00	.00
AC-FT	67	238	210	230	229	473	8590	19800	3810	157	20	.00

CAL YR 1978 TOTAL 5753.84 MEAN 15.8 MAX 245 MIN .00 AC-FT 11410
WTR YR 1979 TOTAL 17055.50 MEAN 46.7 MAX 525 MIN .00 AC-FT 33830

NOTE.--NO GAGE-HEIGHT RECORD DEC. 1 TO MAR. 30, APR. 2.

08248000 LOS PINOS RIVER NEAR ORTIZ. CO

LOCATION.--Lat 36°58'56". long 106°04'23". on line between secs.26 and 27. T.32 N.. R.8 E.. Rio Arriba County. New Mexico. Hydrologic Unit 13010005. on left bank 0.9 mi (1.4 km) south of Colorado-New Mexico State line. 2.1 mi (3.4 km) southwest of Ortiz. and 2.9 mi (4.7 km) upstream from mouth.

DRAINAGE AREA.--167 mi² (433 km²).

PERIOD OF RECORD.--January 1915 to December 1920. October 1924 to current year. Monthly discharge only for some periods. published in WSP 1312.

GAGE.--Water-stage recorder. Altitude of gage is 8.040 ft (2.451 m). from topographic map. Prior to Apr. 15. 1955. at site 350 ft (110 m) upstream at datum 2.52 ft (0.768 m) higher.

REMARKS.--Records good except those for winter period. which are fair. Diversions above station for irrigation. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--60 years. 119 ft³/s (3.370 m³/s). 86.220 acre-ft/yr (106 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge. 3.160 ft³/s (89.5 m³/s) May 12. 1941. gage height. 5.77 ft (1.759 m). site and datum then in use. from rating curve extended above 1.600 ft³/s (45 m³/s); minimum observed. 4.0 ft³/s (0.11 m³/s) Dec. 17. 1945 (discharge measurement) but may have been less during periods of no gage-height record.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 5. 1911. is the greatest since at least 1854. from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge. 1.810 ft³/s (51.3 m³/s) at 0030 May 30. gage height. 6.21 ft (1.893 m). only peak above base of 900 ft³/s (25 m³/s); minimum daily. 7.0 ft³/s (0.20 m³/s) Dec. 8.

DISCHARGE. IN CUBIC FEET PER SECOND. WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.7	14	16	14	14	13	26	428	1180	456	44	18
2	9.7	14	18	13	14	18	24	452	978	432	38	18
3	9.7	19	11	14	13	18	26	414	1090	399	37	18
4	10	29	12	15	12	17	23	390	1070	360	36	18
5	10	22	13	15	13	17	25	482	1040	303	33	17
6	10	19	12	16	14	19	27	590	1090	273	31	17
7	10	16	9.0	15	14	20	36	694	1150	276	32	16
8	10	15	7.0	14	15	22	44	622	1190	246	32	15
9	10	15	8.0	14	14	23	52	482	942	225	33	14
10	10	14	10	15	14	22	48	382	725	208	41	13
11	11	18	11	15	14	22	44	315	685	192	64	13
12	11	22	12	16	14	24	39	282	750	175	49	13
13	11	13	14	15	15	26	34	279	810	160	42	13
14	10	8.0	13	13	16	32	39	348	855	149	41	15
15	10	15	13	15	17	34	48	486	888	142	58	19
16	11	14	12	17	15	34	71	572	876	153	66	18
17	11	13	13	17	15	34	103	690	795	145	54	16
18	10	15	18	19	13	31	148	785	690	130	45	15
19	10	14	19	18	13	32	170	1100	612	118	39	14
20	10	16	17	17	16	31	165	1290	516	105	34	15
21	11	18	14	16	16	30	168	1310	504	98	32	16
22	14	19	14	16	15	29	212	1360	516	89	29	18
23	17	15	15	15	13	29	273	1390	528	80	26	17
24	17	15	15	14	13	28	306	1430	544	74	24	15
25	17	15	15	16	12	29	340	1400	548	66	23	14
26	17	14	13	16	13	30	354	1380	520	59	24	14
27	17	14	13	15	15	32	348	1340	480	54	25	14
28	18	14	15	14	13	33	404	1490	488	53	22	14
29	15	13	18	15	---	32	418	1510	480	53	19	13
30	14	15	17	13	---	27	404	1540	488	54	19	12
31	14	---	16	12	---	28	---	1300	---	49	22	---
TOTAL	375.1	477.0	423.0	469	395	816	4419	26533	23028	5376	1114	462
MEAN	12.1	15.9	13.6	15.1	14.1	26.3	147	856	768	173	35.9	15.4
MAX	18	29	19	19	17	34	418	1540	1190	456	66	19
MIN	9.7	8.0	7.0	12	12	13	23	279	480	49	19	12
AC-FT	744	946	839	930	783	1620	8770	52630	45680	10660	2210	916

CAL YR 1978 TOTAL 32144.5 MEAN 88.1 MAX 820 MIN 7.0 AC-FT 63760
WTR YR 1979 TOTAL 63887.1 MEAN 175 MAX 1540 MIN 7.0 AC-FT 126700

NOTE.--NO GAGE-HEIGHT RECORD DEC. 11 TO MAR. 22.

08248500 SAN ANTONIO RIVER AT MOUTH, NEAR MANASSA, CO

LOCATION.--Lat 37°10'37", long 105°52'39", in SE¼NE¼ sec.21, T.34 N., R.10 E., Conejos County, Hydrologic Unit 13010005, on right bank 0.3 mi (0.5 km) downstream from bridge on State Highway 142, 2.2 mi (3.5 km) upstream from mouth, and 3.3 mi (5.3 km) east of Manassa.

DRAINAGE AREA.--348 mi² (901 km²).

PERIOD OF RECORD.--April 1923 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1312: 1936(M). WSP 1732: 1957.

GAGE.--Water-stage recorder. Altitude of gage is 7,650 ft (2,332 m), from topographic map. Prior to Apr. 23, 1936, at former bridge site 200 ft (60 m) upstream at present datum.

REMARKS.--Records good except those for winter period which are poor. Natural flow of stream affected by diversions to Cove Lake Reservoir, capacity, 9,700 acre-ft (12.0 hm³) and diversions for irrigation above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--56 years, 79.3 ft³/s (2.245 m³/s), 57,450 acre-ft/yr (70.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,620 ft³/s (74.2 m³/s) May 14, 1941, gage height, 6.26 ft (1.908 m), from rating curve extended above 2,200 ft³/s (62 m³/s); maximum gage height, 6.42 ft (1.957 m) May 6, 1952; no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1854 occurred Oct. 5, 1911, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft³/s (14 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
May 27	1700	1,040	29	5.87	1.789	May 30	1830			6.35	1.936
May 24	0200	*1,550	44	6.30	1.920						

No flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	1.0	2.0	7.0	11	35	505	1290	480	3.7	6.4
2	.00	.00	1.0	1.5	7.5	14	35	562	1200	450	3.0	5.1
3	.00	.00	1.0	2.0	7.5	13	30	518	1140	430	2.3	3.9
4	.00	.00	1.0	3.0	7.0	12	24	452	1130	390	1.6	3.9
5	.00	.00	1.0	4.0	7.0	13	24	518	1080	340	1.2	3.5
6	.00	.00	1.0	5.0	7.5	15	24	690	1060	296	.95	2.6
7	.00	.00	1.0	4.5	8.0	17	27	896	1060	303	.63	1.4
8	.00	.00	.50	4.0	8.5	19	38	868	1070	280	.30	.85
9	.00	.00	.00	4.0	8.0	18	52	708	1180	262	.09	.56
10	.00	.00	.00	4.5	8.0	17	51	492	994	256	.00	.17
11	.00	.00	.00	4.5	8.0	19	52	390	808	220	.00	.00
12	.00	.00	.00	5.0	8.0	21	38	315	724	186	.00	.00
13	.00	.00	.00	4.5	8.5	23	33	291	727	161	7.0	.00
14	.00	1.0	.00	4.5	8.5	23	41	316	818	131	20	.00
15	.00	3.9	.50	5.5	9.0	24	49	495	880	105	35	.00
16	.00	.01	.50	6.5	8.5	24	104	693	932	96	52	.00
17	.00	.00	.50	6.5	9.5	25	172	864	884	106	53	.00
18	.00	.00	1.0	6.5	9.0	24	285	958	744	102	48	.00
19	.00	.00	1.0	6.0	10	25	344	1150	660	88	38	.00
20	.00	.00	1.5	5.5	12	26	284	1380	560	68	32	.00
21	.00	.00	1.5	5.5	12	27	249	1430	520	58	27	.00
22	.00	.00	1.5	5.0	12	26	276	1450	510	47	22	.00
23	.00	.00	2.0	6.0	11	26	398	1460	520	42	20	.00
24	.00	.50	2.0	6.5	11	26	480	1500	530	42	17	.00
25	.00	2.0	2.0	7.5	11	26	488	1510	540	33	14	.00
26	.00	2.0	2.0	7.5	11	29	512	1480	550	15	14	.00
27	.00	2.5	2.0	7.0	13	32	475	1440	520	9.8	18	.00
28	.00	2.0	2.0	6.5	12	35	532	1430	480	7.0	15	.00
29	.00	1.0	2.5	7.5	---	34	595	1440	480	5.9	9.0	.00
30	.00	.50	2.5	7.0	---	33	532	1430	480	5.5	5.5	.00
31	.00	---	2.5	6.5	---	36	---	1380	---	5.1	5.5	---
TOTAL	.00	15.41	35.00	162.0	260.0	713	6279	29011	24071	5020.3	465.77	28.38
MEAN	.000	.51	1.13	5.23	9.29	23.0	209	936	802	162	15.0	.95
MAX	.00	3.9	2.5	7.5	13	36	595	1510	1290	480	53	6.4
MIN	.00	.00	.00	1.5	7.0	11	24	291	480	5.1	.00	.00
AC-FT	.00	31	69	321	516	1410	12450	57540	47740	9960	924	56

CAL YR 1978 TOTAL 21726.73 MEAN 59.5 MAX 758 MIN .00 AC-FT 43090
WTR YR 1979 TOTAL 66060.86 MEAN 181 MAX 1510 MIN .00 AC-FT 131000

NOTE.--NO GAGE-HEIGHT RECORD DEC. 8 TO MAR. 27.

08249000 CONEJOS RIVER NEAR LASAUSES, CO

LOCATION.--Lat 37°18'01", long 105°44'47", in SW¼SW¼ sec.2, and SE¼NE¼ sec.10 (two channels), T.35 N., R.11 E., Conejos County, Hydrologic Unit 13010005, on left bank of main channel 125 ft (38 m) downstream from bridge on State Highway 158 and on left bank of secondary channel 230 ft (70 m) upstream from bridge on State Highway 158, 1.0 mi (1.6 km) upstream from mouth, 2.1 mi (3.4 km) north of Lasauses, and 13 mi (21 km) southeast of Alamosa.

DRAINAGE AREA.--887 mi^2 (2,297 km^2).

PERIOD OF RECORD.--March 1921 to current year. Monthly discharge only for some periods, published in WSP 1312. Prior to Oct. 1, 1966, published as "near La Sauses."

REVISED RECORDS.--WSP 1312: 1934(M).

GAGE.--Two water-stage recorders. Datum of gage on main (north) channel is 7,495.02 ft (2,284.482 m), and on secondary (south) channel is 7,496.89 ft (2,285.052 m), National Geodetic Vertical Datum of 1929 (levels by Water and Power Resources Service). Main channel: See WSP 1732 for history of changes prior to Oct. 1, 1937. South channel: Prior to Oct. 23, 1934, at bridge 230 ft (70 m) downstream at datum 0.56 ft (0.171 m) lower; Oct. 23, 1934, to May 3, 1936, at site 250 ft (76 m) downstream, and May 4, 1936, to Oct. 13, 1965, at site 280 ft (85 m) downstream, at datum 1.00 ft (0.305 m) lower.

REMARKS.--Records good except those for winter period, which are fair. Diversions for irrigation of about 75,000 acres (300 km^2) above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--58 years, 180 ft^3/s (5.098 m^3/s), 130,400 acre-ft/yr (161 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,890 ft^3/s (110 m^3/s) May 15, 1941; no flow at times some years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 5, 1911, is the greatest since at least 1854, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,040 ft^3/s (57.8 m^3/s) June 10; minimum daily, 0.15 ft^3/s (0.004 m^3/s) Sept. 28, 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	11	27	28	38	67	167	647	1510	1170	206	58
2	3.7	12	44	27	41	74	115	688	1390	1110	169	53
3	3.0	14	37	30	38	73	110	910	1260	1090	139	49
4	2.4	14	29	33	36	77	102	985	1300	1060	124	43
5	2.6	14	32	34	39	76	85	896	1410	958	122	36
6	3.6	21	30	38	42	78	86	1060	1350	946	103	30
7	3.9	22	20	34	42	81	85	1240	1360	1080	94	23
8	4.3	22	14	32	45	87	97	1300	1550	1100	80	19
9	3.3	20	15	32	43	98	124	1020	1830	1040	65	14
10	3.0	20	20	34	44	109	138	717	1940	1050	126	11
11	3.7	23	22	34	44	106	127	568	1440	928	209	5.3
12	6.2	24	24	37	45	103	116	374	1160	761	203	4.4
13	3.8	34	26	32	50	115	104	296	1190	732	192	2.7
14	3.9	39	25	28	53	123	98	279	1350	703	187	1.1
15	3.8	32	25	34	62	134	104	415	1590	657	203	1.2
16	3.9	32	24	41	58	136	150	895	1660	630	238	.90
17	3.5	35	25	40	54	143	221	1070	1600	740	254	.80
18	.90	32	32	46	59	140	339	934	1420	689	264	.40
19	3.8	30	34	40	53	132	399	941	1110	561	203	.40
20	6.0	30	29	37	58	132	412	1240	913	494	145	1.5
21	7.5	30	25	35	60	130	333	1480	958	394	122	2.1
22	8.4	26	26	35	60	121	333	1520	1010	332	112	2.5
23	8.4	35	29	33	60	121	430	1550	1120	328	111	3.9
24	9.0	36	28	33	63	114	545	1480	1240	410	103	5.0
25	6.4	39	28	40	65	116	586	1510	1390	328	96	3.6
26	8.8	36	26	42	66	124	590	1500	1470	302	88	3.8
27	10	34	25	37	69	127	584	1450	1440	296	93	.30
28	10	33	29	34	66	131	568	1470	1350	288	101	.15
29	9.8	27	36	40	---	142	699	1630	1330	285	77	.15
30	10	24	35	36	---	132	736	1620	1220	282	65	.35
31	10	---	32	33	---	126	---	1680	---	260	63	---
TOTAL	171.10	801	852	1089	1453	3470	8583	33365	40861	21004	4357	376.55
MEAN	5.52	26.7	27.5	35.1	51.9	112	286	1076	1362	678	141	12.6
MAX	10	39	44	46	69	143	736	1680	1940	1170	264	58
MIN	.90	11	14	27	36	67	85	279	913	260	63	.15
AC-FT	339	1590	1690	2160	2880	6880	17020	66180	81050	41660	8640	747

CAL YR 1978 TOTAL 34981.08 MEAN 95.8 MAX 733 MIN .15 AC-FT 69380
WTR YR 1979 TOTAL 116382.65 MEAN 319 MAX 1940 MIN .15 AC-FT 230800

08250000 CULEBRA CREEK AT SAN LUIS, CO

LOCATION.--Lat 37°11'02", long 105°25'31", Costilla County, Hydrologic Unit 13010002, in Beaubien Grant, on left bank at bridge 1.0 mi (1.6 km) south of San Luis and 1.0 mi (1.6 km) upstream from Rito Seco.

DRAINAGE AREA.--220 mi² (570 km²).

PERIOD OF RECORD.--April 1927 to current year. Monthly discharge only for some periods, published in WSP 1312. Records for January 1910 to December 1911, published as Culebra River at San Luis in WSP 288 and 308, have been found to be unreliable and should not be used.

REVISED RECORDS.--WSP 1312: 1940. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 8,000 ft (2,438 m), from topographic map. Prior to May 23, 1931, water-stage recorder at present site at different datum.

REMARKS.--Records good except those for period of no gage-height record, which are fair. Diversions above station for irrigation. Flow regulated by Sanchez Reservoir, capacity, 103,000 acre-ft (130 hm³), on Ventero Creek. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--52 years, 46.0 ft³/s (1.303 m³/s), 33,330 acre-ft/yr (41.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 654 ft³/s (18.5 m³/s) July 1, 1967, gage height, 5.09 ft (1.551 m), from rating curve extended above 300 ft³/s (8.5 m³/s); minimum daily, 4.6 ft³/s (0.13 m³/s) Oct. 31, 1950.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 494 ft³/s (14.0 m³/s) June 9, gage height, 4.24 ft (1.292 m); minimum daily, 9.0 ft³/s (0.26 m³/s) Jan. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	14	16	11	14	18	20	16	95	122	138	25
2	12	13	15	9.0	14	18	19	14	117	108	148	25
3	12	16	13	10	13	18	18	14	135	83	145	35
4	12	14	14	11	12	16	17	15	122	69	142	75
5	12	14	16	13	12	16	18	14	148	59	140	75
6	12	14	15	14	12	17	18	12	158	62	139	75
7	11	14	14	13	12	19	17	12	164	77	154	80
8	11	14	10	12	12	31	17	14	291	87	166	78
9	11	13	11	12	12	25	18	19	292	103	188	80
10	12	13	11	12	13	22	19	17	186	107	187	74
11	11	15	11	12	13	21	20	23	135	112	163	50
12	14	17	11	12	14	25	21	19	116	136	154	46
13	19	16	11	12	14	26	23	18	168	140	147	48
14	19	15	11	13	14	25	23	17	231	136	163	59
15	20	16	11	14	16	27	19	18	303	128	144	54
16	20	16	11	14	16	27	18	18	356	129	87	51
17	20	14	11	14	18	26	18	17	309	136	77	53
18	21	15	14	15	16	24	18	16	280	156	80	43
19	18	14	19	16	17	21	18	16	225	146	82	42
20	13	16	15	14	19	22	14	16	160	139	77	42
21	16	16	11	14	17	23	14	18	129	138	77	47
22	17	21	11	14	17	21	13	17	122	162	75	46
23	15	18	11	14	16	21	13	18	136	164	80	43
24	14	16	11	14	17	21	13	36	184	160	80	42
25	18	27	11	14	16	21	13	35	180	156	85	39
26	16	19	11	14	18	22	13	49	157	158	60	38
27	16	17	11	14	19	22	13	65	153	156	50	38
28	14	15	11	14	18	22	14	72	140	154	40	38
29	14	15	12	14	---	21	13	84	121	154	35	38
30	14	14	12	14	---	18	15	95	126	145	30	38
31	14	---	12	14	---	18	---	108	---	138	30	---
TOTAL	460	471	384	407.0	421	674	507	922	5439	3920	3363	1516
MEAN	14.8	15.7	12.4	13.1	15.0	21.7	16.9	29.7	181	126	108	50.5
MAX	21	27	19	16	19	31	23	108	356	164	188	80
MIN	11	13	10	9.0	12	16	13	12	95	59	30	25
AC-FT	912	934	762	807	835	1340	1010	1830	10790	7780	6670	3010

CAL YR 1978 TOTAL 13133.2 MEAN 36.0 MAX 150 MIN 8.4 AC-FT 26050
WTR YR 1979 TOTAL 18484.0 MEAN 50.6 MAX 356 MIN 9.0 AC-FT 36660

08251500 RIO GRANDE NEAR LOBATOS, CO

LOCATION.--Lat 37°04'42", long 105°45'22", in sec.22, T.33 N., R.11 E., Conejos County, Hydrologic Unit 13010002, on right bank at highway bridge, 6 mi (10 km) north of Colorado-New Mexico State line, 7 mi (11 km) downstream from Culebra Creek, 10 mi (16 km) east of Lobatos, and 14 mi (23 km) east of Antonito.

DRAINAGE AREA.--7,700 mi² (19,900 km²), approximately, includes 2,940 mi² (7,610 km²) in closed basin in northern part of San Luis Valley, Colo.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1899 to current year. Monthly discharge only for some periods, published in WSP 1312. Published as "at Cenicero" 1899-1901, and as "near Cenicero" 1902-4.

REVISED RECORDS.--WSP 1312: 1919 (monthly runoff). WSP 210: Drainage area. WDR CO-78-1: 1976.

GAGE.--Water-stage recorder. Datum of gage is 7,427.63 ft (2,263.942 m), National Geodetic Vertical Datum of 1929. Prior to 1910, nonrecording gages at same site and datum.

REMARKS.--Records good except those for winter period, which are fair. Natural flow of stream affected by transmountain diversions, storage reservoirs, ground-water withdrawals and diversion for irrigation, and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 13,200 ft³/s (374 m³/s) June 8, 1905, gage height, 9.1 ft (2.77 m), from rating curve extended above 8,000 ft³/s (230 m³/s); no flow at times in 1950-51, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1828, that of June 8, 1905.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,830 ft³/s (137 m³/s) at 2100 June 10, gage height, 5.61 ft (1.710 m); minimum daily, 41 ft³/s (1.16 m³/s) Sept. 28-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	98	250	195	175	190	250	496	1320	4110	2960	1020	192
2	92	234	205	155	190	255	478	1300	4040	2810	925	178
3	90	246	160	155	185	260	435	1440	3740	2820	840	164
4	88	254	175	160	180	255	420	1730	3370	2840	768	151
5	90	254	210	160	180	250	395	1650	3360	2680	685	136
6	92	274	160	160	180	260	385	1720	3420	2630	643	125
7	100	278	80	160	185	280	390	1970	3480	2660	601	112
8	95	270	70	155	190	330	405	2180	3630	2610	587	98
9	95	258	90	155	190	305	455	2080	4110	2530	587	82
10	92	246	130	155	190	310	556	1790	4690	2590	587	73
11	90	246	140	155	190	330	594	1380	4580	2520	692	65
12	88	258	135	160	190	340	580	1230	3990	2220	685	56
13	90	258	145	155	190	360	544	1050	3420	2100	657	53
14	92	278	160	155	190	370	496	952	3340	1910	664	51
15	100	306	170	160	190	390	466	988	3580	1680	776	53
16	136	270	165	165	185	410	508	1340	3990	1520	752	53
17	254	258	165	170	185	430	657	1700	4260	1680	848	50
18	330	258	175	175	200	450	856	1660	4190	1910	934	46
19	385	250	180	170	205	460	1070	1670	3770	1930	889	44
20	435	238	185	175	195	484	1240	1900	3340	2010	736	43
21	472	238	185	180	205	508	1230	2260	3140	1950	706	44
22	496	238	180	180	215	490	1230	2520	3060	1850	657	46
23	502	242	180	180	225	490	1280	2560	3060	1690	622	44
24	520	262	175	185	230	496	1420	2670	3080	1620	596	46
25	450	274	175	190	235	532	1520	2880	3210	1460	544	46
26	395	274	175	190	240	587	1390	3030	3390	1310	502	44
27	385	262	170	190	245	568	1350	3150	3390	1220	445	43
28	375	230	175	190	250	514	1220	3370	3260	1190	365	41
29	355	190	175	190	---	532	1280	3420	3230	1130	302	41
30	335	170	175	180	---	532	1350	3680	3090	1090	246	41
31	294	---	170	185	---	520	---	4020	---	1080	212	---
TOTAL	7511	7564	5030	5270	5625	12548	24696	64610	108320	62200	20071	2261
MEAN	242	252	162	170	201	405	823	2084	3611	2006	647	75.4
MAX	520	306	210	190	250	587	1520	4020	4690	2960	1020	192
MIN	88	170	70	155	180	250	385	952	3060	1080	212	41
AC-FT	14900	15000	9980	10450	11160	24890	48980	128200	214900	123400	39810	4480

CAL YR 1978 TOTAL 87951 MEAN 241 MAX 925 MIN 36 AC-FT 174500
WTR YR 1979 TOTAL 325706 MEAN 892 MAX 4690 MIN 41 AC-FT 646000

09251500 RIO GRANDE NEAR LOBATOS, CO--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--September 1969 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1975 to current year.
WATER TEMPERATURES: October 1975 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1975.

REMARKS.--Records good. Daily maximum and minimum specific-conductance data available in district office.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 1,040 micromhos Sept. 17, 18, 1977; minimum, 138 micromhos June 14, 1978.
WATER TEMPERATURE.--Maximum, 30.0°C July 17, 1977; minimum, freezing point on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 539 micromhos Sept. 23; minimum, 89 micromhos May 9.
WATER TEMPERATURES: Maximum, 27.9°C Sept. 9; minimum, freezing point on many days during November to March.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	TEMPER- ATURE (DEG C)	DATE	TIME	TEMPER- ATURE (DEG C)
OCT			MAR		
02...	1000	10.5	01...	1110	.5
11...	1110	10.0	12...	1050	1.0
12...	1145	15.0	19...	1240	7.0
18...	1510	12.5	29...	1330	8.0
23...	1640	9.0	APR		
NOV			02...	1100	7.5
01...	1015	9.0	11...	1050	5.5
07...	1300	9.5	19...	1300	12.0
13...	1025	1.0	23...	1035	12.0
21...	1000	2.0	MAY		
DEC			01...	1030	9.5
01...	0955	.5	09...	1145	7.5
11...	1105	.0	17...	1530	14.5
19...	1300	.5	21...	1535	14.0
21...	1040	.0	JUN		
JAN			01...	1505	16.0
02...	1100	.0	11...	1140	15.0
11...	1040	.0	14...	1400	21.0
18...	1300	.5	21...	1155	16.5
22...	1230	.0	JUL		
FEB			02...	1045	18.0
01...	1035	.0	11...	1135	19.0
09...	1055	.0			
20...	1300	.5			
22...	1540	.0			

DATE	TIME	TEMPER- ATURE (DEG C)	DATE	TIME	TEMPER- ATURE (DEG C)
JUL			SEP		
19...	1330	21.0	21...	1000	11.0
AUG			26...	1415	18.5
23...	1300	22.0			
23...	1415	22.0			

08251500 RIO GRANDE NEAR LOBATOS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	NITRO-GEN, DIS-SOLVED (MG/L AS N)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)
OCT 12...	1145	93	245	8.0	15.0	1.6	9.6	--	K9	K1	83
NOV 07...	1300	370	260	6.8	9.5	3.1	10.0	--	--	K10	70
DEC 19...	1300	150	218	7.5	.5	1.5	11.0	--	52	38	74
JAN 18...	1300	160	210	7.1	.5	2.2	10.0	--	K10	25	64
FEB 20...	1300	150	200	6.8	.5	3.9	--	--	K27	46	66
MAR 29...	1330	526	240	7.4	8.0	9.9	8.4	--	K2	60	75
APR 19...	1300	1200	190	6.7	12.0	2.0	7.6	--	4600	K800	54
MAY 17...	1530	1850	115	7.4	14.5	35	7.5	--	85	240	38
JUN 14...	1400	3280	200	7.6	21.0	15	6.5	--	--	120	67
JUL 19...	1330	1910	100	7.0	21.0	13	7.5	--	--	--	34
AUG 23...	1300	615	135	6.9	22.0	10	8.5	.24	--	--	46
23...	1415	615	135	6.9	22.0	--	8.5	--	--	--	--
SEP 26...	1415	44	480	8.0	18.5	1.7	--	.47	K2	K36	150

DATE	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
OCT 12...	0	26	4.3	18	.9	4.0	86	28	--	.3	22
NOV 07...	2	22	3.6	14	.7	3.3	68	28	3.3	.2	25
DEC 19...	3	23	4.1	13	.7	3.4	71	27	3.2	.3	32
JAN 18...	0	20	3.5	11	.6	3.1	64	22	3.0	.2	31
FEB 20...	0	21	3.4	11	.6	2.9	66	21	3.3	.2	30
MAR 29...	2	23	4.3	19	1.0	3.4	73	36	5.5	.3	27
APR 19...	6	16	3.3	10	.6	2.6	48	22	2.9	.2	25
MAY 17...	7	13	1.3	7.5	.5	2.1	31	13	3.7	.2	20
JUN 14...	21	20	4.1	13	.7	3.3	46	19	5.6	.2	20
JUL 19...	0	10	2.1	6.2	.5	1.8	35	11	1.2	.1	20
AUG 23...	3	14	2.7	8.5	.5	2.1	43	16	1.8	.2	23
23...	--	--	--	--	--	--	--	--	--	--	--
SEP 26...	16	44	8.8	41	1.5	3.9	130	91	10	.5	29

K BASED ON NON-IDEAL COLONY COUNT.

08251500 RIO GRANDE NEAR LOBATOS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)
OCT											
12...	185	--	.22	41.4	.08	--	.01	.48	.49	.30	.49
NOV											
07...	148	140	.20	148	.01	--	.00	.57	.57	.54	.58
DEC											
19...	155	149	.21	62.8	.25	--	.03	.19	.22	.13	.47
JAN											
18...	144	132	.20	62.2	.32	--	.02	.13	.15	.02	.47
FEB											
20...	137	133	.19	55.5	.54	--	.19	.30	.49	.25	1.0
MAR											
29...	176	162	.24	247	.23	--	.06	.51	.57	.25	.80
APR											
19...	113	111	.15	366	.20	--	.03	.84	.87	.28	1.1
MAY											
17...	95	80	.13	475	.05	--	.01	.63	.64	.35	.69
JUN											
14...	170	133	.23	1510	.01	--	.08	.32	.40	.51	.41
JUL											
19...	77	73	.10	397	.01	--	.02	.46	.48	.40	.49
AUG											
23...	99	94	.13	164	.01	.01	.01	.26	.27	.23	.28
23...	--	--	--	--	--	--	--	--	--	--	--
SEP											
26...	328	306	.45	39.4	.05	.01	.01	.49	.50	.46	.55

DATE	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	PHYTO-PLANK-TON, TOTAL (CELLS PER ML)	PERI-PHYTON BIOMASS ASH WEIGHT G/SQ M	PERI-PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)	CHLOR-B PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)	BIOMASS CHLORO-PHYLL RATIO PERI-PHYTON (UNITS)
OCT										
12...	.080	.060	2.7	--	3700	--	--	--	--	--
NOV										
07...	.070	.070	--	2.8	6500	17.6	20.0	18.4	.290	--
DEC										
19...	.090	.070	2.2	--	--	--	--	--	--	--
JAN										
18...	.090	.070	1.9	--	--	--	--	--	--	--
FEB										
20...	.140	.110	--	1.5	--	--	--	--	--	--
MAR										
29...	.110	.060	5.4	--	4000	--	--	--	--	--
APR										
19...	.270	.080	14	--	--	4.72	5.20	4.02	.000	119
MAY										
17...	.130	.050	--	5.6	2000	.080	.160	.110	.000	727
JUN										
14...	.170	.010	9.2	--	1200	--	--	--	--	--
JUL										
19...	.130	.090	4.4	--	2100	--	--	--	--	--
AUG										
23...	.140	.050	--	3.8	3100	--	--	--	--	--
23...	--	--	--	--	18000	--	--	--	--	--
SEP										
26...	.100	.060	6.4	--	11000	3.62	4.17	.020	.070	671

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)
NOV										
07...	1300	2	2	0	0	7	4	0	0	1
FEB										
20...	1300	2	2	0	0	1	1	10	10	0
MAY										
17...	1530	--	1	0	0	1	0	10	0	1
AUG										
23...	1300	--	1	0	30	0	2	10	0	0

DATE	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
NOV									
07...	1	3	3	520	40	65	15	100	10
FEB									
20...	0	5	1	310	10	8	1	70	20
MAY									
17...	1	12	16	1800	80	8	0	210	40
AUG									
23...	<3	2	2	1100	30	5	0	110	20

DATE	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
NOV									
07...	.0	.0	0	0	0	0	0	20	10
FEB									
20...	.0	.0	1	0	0	0	0	40	20
MAY									
17...	--	.0	0	--	0	0	0	40	50
AUG									
23...	--	.0	<10	--	0	0	0	10	3

DATE	TIME	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RADIUM 226, DIS-SOLVED, RADON METHOD (PCI/L)	URANIUM NATURAL DIS-SOLVED (UG/L AS U)	URANIUM DIS-SOLVED, EXTRAC-TION (UG/L)
OCT										
12...	1145	<1.9	<.4	3.5	.5	3.3	.5	.06	1.0	--
JUN										
14...	1400	<1.5	1.2	4.0	1.2	3.7	1.2	.04	.6	--
SEP										
26...	1415	12	<.4	8.2	.7	7.5	.7	.05	--	2.5

08251500 RIO GRANDE NEAR LOBATOS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	CYANIDE TOTAL (MG/L AS CN)	PCB, TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	ALDRIN, TOTAL (UG/L)	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	AROCLOR TOTAL 1254 PCB SERIES (UG/L)	CHLORDANE, TOTAL (UG/L)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL (UG/L)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)
NOV 07...	1300	.00	ND	--	ND	--	--	ND	--	ND	--
FEB 20...	1300	.00	ND	--	ND	--	--	ND	--	ND	--
MAY 17...	1530	.00	ND	ND	ND	ND	--	ND	ND	ND	ND
AUG 23...	1415	--	--	--	ND	--	.1	ND	--	ND	--

DATE	DDE, TOTAL (UG/L)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL (UG/L)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DI-AZINON, TOTAL (UG/L)	DI-AZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DI-ELDRIN TOTAL (UG/L)	DI-ELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL (UG/L)
NOV 07...	ND	--	ND	--	ND	--	ND	--	ND	--	ND
FEB 20...	ND	--	ND	--	ND	--	ND	--	ND	--	ND
MAY 17...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 23...	ND	--	ND	--	ND	--	ND	--	ND	--	ND

DATE	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL (UG/L)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALA-THION, TOTAL (UG/L)	MALA-THION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METH-OXY-CHLOR, TOTAL (UG/L)	METH-OXY-CHLOR, TOT. IN BOTTOM MATL. (UG/KG)
NOV 07...	--	ND	--	ND	--	ND	--	ND	--	ND	--
FEB 20...	--	ND	--	ND	--	ND	--	ND	--	ND	--
MAY 17...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 23...	--	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	METHYL PARA-THION, TOTAL (UG/L)	METHYL PARA-THION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRI-THION, TOTAL (UG/L)	METHYL TRI-THION, TOT. IN BOTTOM MATL. (UG/KG)	PARA-THION, TOTAL (UG/L)	PARA-THION, TOTAL IN BOTTOM MATERIAL (UG/KG)	TOX-APHENE, TOTAL (UG/L)	TOXA-PHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TOTAL TRI-THION (UG/L)	TRI-THION, TOTAL IN BOTTOM MATERIAL (UG/KG)
NOV 07...	ND	--	ND	--	ND	--	ND	--	ND	--
FEB 20...	ND	--	ND	--	ND	--	ND	--	ND	--
MAY 17...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 23...	ND	--	ND	--	ND	--	ND	--	ND	--

08251500 RIO GRANDE NEAR LOBATOS, CO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	230	204	251	182	198	171	228	98	158	168	108	309
2	231	221	256	182	196	171	218	97	161	170	113	316
3	236	231	251	183	196	172	218	95	171	164	118	317
4	234	236	243	184	195	172	231	90	171	164	123	323
5	234	238	232	184	194	172	229	92	164	174	129	333
6	238	236	241	184	194	172	241	91	166	175	132	347
7	237	238	245	184	193	172	242	92	166	178	134	356
8	239	227	250	185	193	173	240	91	163	181	131	365
9	244	231	256	186	192	174	237	86	181	185	131	385
10	245	239	250	186	193	174	220	91	205	182	133	411
11	247	245	260	187	193	174	207	104	214	179	129	432
12	239	249	256	186	193	174	204	108	232	183	125	426
13	244	231	263	187	192	173	197	125	232	175	127	435
14	270	228	252	187	192	176	209	130	219	170	126	425
15	278	229	236	188	192	180	215	131	207	170	121	441
16	278	234	224	188	192	186	209	119	198	164	132	453
17	258	226	221	189	193	181	189	121	192	149	123	464
18	198	226	.220	194	193	196	174	130	192	124	122	472
19	183	224	213	198	193	206	177	131	186	104	121	476
20	176	230	206	198	192	202	150	132	191	103	128	481
21	174	238	206	197	186	216	127	107	190	105	130	488
22	170	241	205	198	173	212	122	103	187	105	132	494
23	167	240	206	198	172	216	118	104	187	109	135	496
24	163	226	207	198	171	217	114	114	181	111	152	488
25	163	223	207	201	171	227	109	111	176	113	180	469
26	170	220	206	201	170	227	106	112	172	112	201	471
27	178	226	206	198	171	226	102	117	171	113	219	467
28	180	219	206	197	171	239	104	128	171	112	248	483
29	182	220	203	198	---	235	102	132	166	111	267	482
30	188	229	199	197	---	219	98	138	167	109	283	493
31	191	---	184	198	---	228	---	154	---	108	294	---

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	21.0	11.0	11.0	7.0	2.0	.0	.5	.5	1.0	.5	1.0	1.0
2	18.5	10.5	10.5	6.0	1.0	.0	.5	.0	1.0	1.0	1.0	1.0
3	20.0	9.5	9.5	6.5	.5	.0	.5	.5	1.0	1.0	1.0	1.0
4	19.5	8.5	11.0	6.0	.5	.0	.5	.5	1.0	.5	1.0	1.0
5	19.5	8.5	9.0	6.5	.5	.0	.5	.5	1.0	1.0	1.0	1.0
6	18.0	7.5	9.5	5.0	.5	.0	.5	.5	1.0	1.0	1.0	1.0
7	18.0	8.0	9.5	4.5	.5	.0	.5	.0	1.0	1.0	1.0	1.0
8	17.0	7.5	10.0	4.0	.5	.0	.5	.5	1.0	1.0	1.0	1.0
9	16.0	8.5	9.5	5.0	.5	.0	.5	.5	1.0	1.0	1.0	1.0
10	18.5	8.5	8.5	4.0	.5	.0	.5	.5	1.0	1.0	1.0	1.0
11	18.0	7.5	7.0	5.0	.5	.5	.5	.5	1.0	1.0	1.5	.5
12	17.5	7.5	6.5	1.0	.5	.5	.5	.5	1.0	1.0	1.5	.5
13	14.0	12.5	2.5	.0	.5	.5	.5	.5	1.0	1.0	1.5	.5
14	15.0	5.5	2.5	.5	.5	.5	.5	.5	1.0	1.0	1.5	.5
15	16.0	6.5	6.0	1.5	.5	.5	.5	.5	1.0	1.0	2.0	.5
16	14.5	7.0	6.0	1.5	.5	.5	.5	.5	1.0	1.0	2.0	.5
17	12.5	8.0	4.5	.0	.5	.5	.5	.5	1.0	1.0	2.0	.5
18	11.0	8.0	5.0	.0	.5	.5	.5	.5	1.0	1.0	4.5	1.0
19	12.5	7.5	4.0	.0	.5	.5	.5	.5	1.0	1.0	6.0	2.5
20	11.5	7.5	4.0	.0	.5	.5	.5	.5	1.0	.5	4.5	2.5
21	9.5	8.5	4.5	.5	1.0	.5	.5	.5	1.0	1.0	5.5	2.0
22	10.0	6.5	5.5	2.0	.5	.5	.5	.5	1.0	1.0	5.0	1.0
23	8.0	4.0	5.0	1.0	.5	.5	.5	.5	1.0	1.0	7.0	2.0
24	10.5	7.0	2.5	.5	.5	.5	.5	.5	1.0	1.0	8.0	1.0
25	10.0	5.5	4.5	.5	.5	.5	.5	.5	1.0	1.0	8.5	3.0
26	9.0	3.0	4.0	.0	1.0	.5	.5	.5	1.0	1.0	8.5	3.5
27	9.5	4.0	4.5	.0	.5	.5	1.0	.5	1.0	1.0	7.5	3.5
28	10.0	4.5	1.5	.0	.5	.5	1.0	.5	1.0	1.0	9.0	4.5
29	9.5	4.5	.0	.0	.5	.0	.5	.5	---	---	8.5	4.0
30	10.0	5.0	1.0	.0	.5	.5	1.0	.5	---	---	10.0	3.5
31	9.5	6.0	---	---	.5	.5	1.0	.5	---	---	8.5	5.0

08251500 RIO GRANDE NEAR LOBATOS, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	9.5	3.5	13.5	9.0	15.0	13.0	19.0	14.5	23.0	18.0	24.5	15.0
2	8.0	2.0	13.0	10.0	16.5	13.0	19.5	15.5	23.5	19.0	21.5	15.5
3	7.5	3.0	11.5	9.0	18.0	13.5	18.5	15.5	24.0	19.5	25.0	14.5
4	9.5	2.0	14.5	8.5	18.0	15.0	19.0	14.0	24.0	19.5	24.0	16.5
5	12.0	4.0	15.5	10.0	18.5	15.0	20.5	15.5	25.0	19.5	25.5	14.5
6	13.0	6.5	14.5	10.5	19.0	15.0	18.5	16.0	25.0	19.0	26.5	16.0
7	13.5	7.5	12.0	9.5	19.0	16.0	19.5	14.5	25.0	19.0	24.0	16.0
8	15.0	7.0	11.0	8.0	17.5	12.5	20.5	16.0	24.0	19.0	26.5	15.5
9	10.5	7.5	9.0	7.5	12.5	10.5	21.5	16.5	24.0	19.0	28.0	17.0
10	8.0	6.0	8.5	5.5	14.5	10.5	22.0	17.5	24.0	19.5	27.5	16.0
11	6.5	5.0	12.0	6.5	17.5	13.0	22.5	17.5	22.5	18.0	26.0	17.0
12	7.5	3.5	14.5	8.0	20.5	16.0	23.0	18.0	23.0	17.0	25.5	15.0
13	9.5	2.5	16.0	10.0	21.0	17.5	23.0	18.0	21.0	17.5	21.5	13.5
14	12.5	5.0	18.0	11.5	19.0	15.0	23.5	19.0	19.5	17.5	13.5	11.5
15	14.5	7.0	16.5	13.0	16.5	13.5	23.0	18.5	20.0	16.0	21.5	9.5
16	15.5	9.0	16.0	12.5	15.5	12.5	22.5	19.0	19.5	15.5	24.0	12.0
17	15.5	10.5	16.0	12.0	14.5	11.5	22.5	18.0	19.5	15.0	21.5	13.0
18	14.5	11.0	18.0	12.0	13.5	11.0	22.5	18.0	18.0	15.0	21.5	12.0
19	12.5	9.0	17.0	13.0	12.5	10.0	22.5	17.5	19.0	14.5	23.5	11.0
20	13.0	7.5	15.5	12.0	15.0	10.5	23.5	18.0	18.5	14.0	21.0	13.5
21	12.0	8.0	16.0	11.0	16.5	11.5	23.5	18.5	20.0	14.0	20.5	13.0
22	13.0	9.0	18.5	13.0	17.0	12.5	24.0	20.0	21.5	15.0	23.0	12.0
23	14.0	10.0	17.5	14.0	18.0	13.0	24.0	20.0	19.5	16.5	24.0	12.5
24	14.0	10.0	16.0	14.0	16.5	14.0	24.5	19.5	24.0	18.5	24.0	12.5
25	13.0	10.0	17.0	13.0	17.0	12.0	23.5	20.0	23.0	18.5	22.0	13.0
26	14.0	9.5	17.5	14.5	17.0	12.5	24.0	19.0	22.0	17.5	19.5	12.5
27	14.0	10.0	17.5	13.5	19.0	14.5	24.0	19.5	22.0	15.5	19.0	11.5
28	14.5	10.5	18.5	14.5	20.0	16.0	22.5	20.0	24.0	16.5	21.5	11.0
29	12.5	9.5	19.0	15.5	19.5	17.0	21.5	18.5	24.5	16.5	21.5	11.0
30	13.0	8.5	17.0	9.5	18.0	15.0	22.5	17.5	21.5	18.0	20.5	11.0
31	---	---	16.5	13.0	---	---	21.0	17.0	23.0	16.0	---	---

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 12...	1130	93	19	48	78
NOV 07...	1200	370	16	16	81
DEC 19...	1245	150	5	2.0	60
JAN 18...	1300	160	8	3.5	50
MAR 29...	1400	526	83	118	69
APR 19...	1500	1200	188	609	69

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
MAY 17...	1500	1850	1570	7840	5
JUN 14...	1315	3280	719	6370	6
JUL 19...	1245	1910	106	547	32
AUG 23...	1400	615	40	66	--
SEP 26...	1545	45	202	25	53

08251500 RIO GRANDE NEAR LOBATOS, CO--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1978 TO SEPTEMBER 1979

DATE	OCT 12,78	NOV 7,78	MAR 29,79	MAY 17,79	JUN 14,79
TIME	1145	1300	1330	1530	1400
TOTAL CELLS/ML	3700	6500	4000	2000	1200
DIVERSITY: DIVISION	1.4	1.0	1.1	1.4	1.6
.CLASS	1.4	1.0	1.1	1.4	1.6
..ORDER	1.8	1.7	1.5	1.8	2.0
...FAMILY	2.7	3.3	1.7	2.4	2.6
....GENUS	2.8	3.7	1.8	2.4	2.6

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)										
.CHLOROPHYCEAE										
..CHLOROCOCCALES										
...CHARACIACEAE										
....SCHROEDERIA	--	-	38	1	--	-	--	-	--	-
...CHLOROCOCCACEAE										
....CHLOROCOCCUM	--	-	--	-	--	-	--	-	--	-
...COELASTRACEAE										
....COELASTRUM	--	-	--	-	--	-	--	-	210#	17
...HYDRODICTYACEAE										
....PEDIASTRUM	480	13	--	-	--	-	--	-	--	-
...MICRACTINIACEAE										
....GOLENKINIA	--	-	--	-	--	-	--	-	--	-
....MICRACTINIUM	--	-	--	-	--	-	100	5	--	-
...OOCYSTACEAE										
....ANKISTRODESMUS	32	1	190	3	26	1	--	-	39	3
....CHODATELLA	--	-	--	-	--	-	--	-	--	-
....DICTYOSPHAERIUM	--	-	--	-	--	-	--	-	--	-
....GLOEOACTINIUM	--	-	450	7	--	-	--	-	--	-
....KIRCHNERIELLA	--	-	--	-	--	-	--	-	--	-
....OOCYSTIS	--	-	--	-	--	-	--	-	--	-
....SELENASTRUM	--	-	38	1	--	-	--	-	--	-
....TREUBARIA	--	-	--	-	--	-	--	-	--	-
...SCENEDESMACEAE										
....ACTINASTRUM	--	-	--	-	--	-	--	-	--	-
....SCENEDESMUS	1400#	37	380	6	--	-	51	3	52	4
....TETRASTRUM	32	1	--	-	--	-	--	-	--	-
..TETRASPORALES										
...COCCOMYXACEAE										
....ELAKATOTHRIX	--	-	--	-	--	-	--	-	26	2
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	130	3	260	4	150	4	--	-	26	2
..ZYGNEMATALES										
...DESMIDIACEAE										
....COSMARIUM	--	-	--	-	--	-	--	-	--	-
....STAURASTRUM	*	0	--	-	--	-	--	-	--	-
CHRYSOPHYTA										
.BACILLARIOPHYCEAE										
..CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	--	-	790	12	2500#	63	270	13	39	3
....MELOSIRA	160	4	75	1	--	-	--	-	--	-
....STEPHANODISCUS	--	-	--	-	--	-	--	-	--	-
..PENNALES										
...ACHNANTHACEAE										
....ACHNANTHES	--	-	38	1	--	-	--	-	--	-
....COCCONEIS	--	-	110	2	64	2	--	-	--	-
....RHOICOSPHENIA	--	-	38	1	*	0	--	-	--	-
...CYMBELLACEAE										
....CYMBELLA	81	2	38	1	--	-	--	-	--	-
....EPITHEMIA	32	1	190	3	39	1	--	-	--	-
...DIATOMACEAE										
....DIATOMA	81	2	75	1	26	1	--	-	--	-
...FRAGILARIACEAE										
....ASTERIONELLA	--	-	--	-	--	-	--	-	--	-
....FRAGILARIA	--	-	1800#	28	--	-	400#	20	140	12
....SYNEDRA	*	0	110	2	--	-	13	1	--	-
...GOMPHONEMATACEAE										
....GOMPHONEIS	--	-	75	1	--	-	--	-	--	-
....GOMPHONEMA	48	1	150	2	52	1	39	2	13	1
...NAVICULACEAE										
....NAVICULA	260	7	230	3	64	2	51	3	--	-
....PINNULARIA	--	-	38	1	--	-	--	-	--	-
....STAURONEIS	--	-	--	-	--	-	--	-	--	-
...NITZSCHIACEAE										
....NITZSCHIA	150	4	790	12	77	2	180	9	130	11
...SURIRELLACEAE										
....CYMATOPLEURA	--	-	--	-	*	0	--	-	--	-
....SURIRELLA	--	-	--	-	26	1	--	-	--	-
...TABELLARIACEAE										
....TABELLARIA	--	-	300	5	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2%

08251500 RIO GRANDE NEAR LOBATOS, CO--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1978 TO SEPTEMBER 1979

DATE TIME	OCT 12,78 1145		NOV 7,78 1300		MAR 29,79 1330		MAY 17,79 1530		JUN 14,79 1400	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CRYPTOPHYTA (CRYPTOMONADS)										
.CRYPTOPHYCEAE	--	-	--	-	--	-	--	-	--	-
..CRYPTOMONADALES										
...CRYPTOCHRYSIDACEAE										
....CHROOMONAS	--	-	110	2	--	-	--	-	--	-
...CRYPTOMONADACEAE										
....CRYPTOMONAS	--	-	--	-	--	-	13	1	13	1
CYANOPHYTA (BLUE-GREEN ALGAE)										
.CYANOPHYCEAE										
..CHROOCOCCALES										
...CHROOCOCCACEAE										
....ANACYSTIS	840#	23	--	-	--	-	--	-	--	-
..HORMOGONALES										
...NOSTOCACEAE										
....ANABAENA	--	-	--	-	920#	23	--	-	--	-
...OSCILLATORIACEAE										
....OSCILLATORIA	--	-	--	-	--	-	880#	44	520#	43
....SCHIZOTHRIX	--	-	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)										
.EUGLENOPHYCEAE										
..EUGLENALES										
...EUGLENACEAE										
....EUGLENA	--	-	--	-	--	-	13	1	--	-
....EUTREPTIA	--	-	--	-	--	-	--	-	--	-
....PHACUS	--	-	38	1	--	-	--	-	--	-
....TRACHELOMONAS	--	-	150	2	--	-	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)										
.DINOPHYCEAE										
..GYMNODINIALES										
...GYMNODINIACEAE										
....GYMNODINIUM	--	-	--	-	*	0	--	-	--	-

NOTE: # - DOMINANT ORGANISM, EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

08251500 RIO GRANDE NEAR LOBATOS, CO--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1978 TO SEPTEMBER 1979

DATE	JUL 19,79	AUG 23,79	AUG 23,79	SEP 26,79
TIME	1330	1300	1415	1415
TOTAL CELLS/ML	2100	3100	18000	11000
DIVERSITY: DIVISION	1.5	0.7	1.1	1.8
.CLASS	1.5	0.7	1.1	1.8
..ORDER	1.8	0.0	1.9	2.1
...FAMILY	2.6	0.0	2.7	2.4
....GENUS	3.0	0.0	2.8	3.1

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
.CHLOROPHYCEAE								
..CHLOROCOCCALES								
...CHARACIACEAE								
....SCHROEDERIA	--	-	--	-	--	-	--	-
...CHLOROCOCCACEAE								
....CHLOROCOCCUM	--	-	20	1	--	-	--	-
...COELASTRACEAE								
....COELASTRUM	--	-	--	-	--	-	--	-
...HYDRODICTYACEAE								
....PEDIASTRUM	--	-	--	-	--	-	--	-
...MICRACTINIACEAE								
....GOLENKINIA	26	1	--	-	--	-	--	-
....MICRACTINIUM	--	-	--	-	--	-	--	-
...OOCYSTACEAE								
....ANKISTRODESMUS	64	3	--	-	410	2	500	5
....CHODATELLA	--	-	--	-	--	-	130	1
....DICTYOSPHAERIUM	52	2	--	-	--	-	1000	10
....GLOEOACTINIUM	--	-	--	-	--	-	340	3
....KIRCHNERIELLA	--	-	--	-	--	-	270	2
....OOCYSTIS	--	-	--	-	--	-	*	0
....SELENASTRUM	--	-	--	-	--	-	*	0
....TREUBARIA	--	-	--	-	--	-	67	1
...SCENEDESMACEAE								
....ACTINASTRUM	--	-	--	-	330	2	270	2
....SCENEDESMUS	210	10	40	1	990	5	340	3
....TETRASTRUM	52	2	--	-	--	-	270	2
..TETRASPORALES								
...COCCOMYXACEAE								
....ELAKATOTHRIX	--	-	--	-	--	-	--	-
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	--	-	--	-	*	0	240	2
..ZYGNEMATALES								
...DESMIDIACEAE								
....COSMARIUM	--	-	20	1	--	-	--	-
....STAURASTRUM	--	-	--	-	--	-	--	-
CHRYSOPHYTA								
.BACILLARIOPHYCEAE								
..CENTRALES								
...COSCINODISCACEAE								
....CYCLOTELLA	39	2	20	1	4300#	23	2000#	18
....MELOSIRA	39	2	--	-	--	-	--	-
....STEPHANODISCUS	64	3	--	-	--	-	--	-
..PENNALES								
...ACHNANTHACEAE								
....ACHNANTHES	--	-	--	-	--	-	--	-
....COCCONEIS	39	2	--	-	330	2	--	-
....RHOICOSPHENIA	--	-	--	-	--	-	--	-
...CYMBELLACEAE								
....CYMBELLA	--	-	30	1	250	1	--	-
....EPITHEMIA	--	-	--	-	--	-	--	-
...DIATOMACEAE								
....DIATOMA	--	-	--	-	*	0	--	-
...FRAGILARIACEAE								
....ASTERIONELLA	52	2	--	-	--	-	--	-
....FRAGILARIA	890#	42	--	-	6800#	37	740	7
....SYNEDRA	13	1	--	-	160	1	--	-
...GOMPHONEMATACEAE								
....GOMPHONEIS	--	-	--	-	--	-	--	-
....GOMPHONEMA	--	-	--	-	820	5	--	-
...NAVICULACEAE								
....NAVICULA	13	1	50	2	490	3	--	-
....PINNULARIA	--	-	--	-	--	-	--	-
....STAURONEIS	--	-	140	4	--	-	--	-
...NITZSCHIACEAE								
....NITZSCHIA	210	10	100	3	330	2	100	1
...SURIRELLACEAE								
....CYMATOPLEURA	--	-	--	-	--	-	--	-
....SURIRELLA	--	-	*	0	--	-	--	-
...TABELLARIACEAE								
....TABELLARIA	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2%

08251500 RIO GRANDE NEAR LOBATOS, CO--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1978 TO SEPTEMBER 1979

DATE TIME	JUL 19,79 1330		AUG 23,79 1300		AUG 23,79 1415		SEP 26,79 1415	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CRYPTOPHYTA (CRYPTOMONADS)								
.CRYPTOPHYCEAE	--	-	*	0	--	-	--	-
..CRYPTOMONADALES								
...CRYPTOCHRYSIDACEAE								
....CHROOMONAS	13	1	--	-	--	-	100	1
...CRYPTOMONADACEAE								
....CRYPTOMONAS	52	2	--	-	--	-	67	1
CYANOPHYTA (BLUE-GREEN ALGAE)								
.CYANOPHYCEAE								
..CHROOCOCCALES								
...CHROOCOCCACEAE								
....ANACYSTIS	270	13	--	-	2000	11	4200#	38
..HORMOGONALES								
...NOSTOCACEAE								
....ANABAENA	--	-	--	-	--	-	--	-
...OSCILLATORIACEAE								
....OSCILLATORIA	--	-	2600#	86	--	-	--	-
....SCHIZOTHRIX	--	-	--	-	820	5	--	-
EUGLENOPHYTA (EUGLENOIDS)								
.EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....EUGLENA	13	1	--	-	--	-	--	-
....EUTREPTIA	--	-	--	-	*	0	--	-
....PHACUS	--	-	--	-	--	-	--	-
....TRACHELOMONAS	26	1	--	-	--	-	240	2
PYRRHOPHYTA (FIRE ALGAE)								
.DINOPHYCEAE								
..GYMNODINIALES								
...GYMNODINIACEAE								
....GYMNODINIUM	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2%

08252000 RIO GRANDE AT COLORADO-NEW MEXICO STATE LINE

LOCATION.--Lat 37°00'03", long 105°43'19", Costilla County, Hydrologic Unit 13010002, in Sangre de Cristo Grant, on left bank 0.6 mi (1.0 km) upstream from Colorado-New Mexico State line, 1.7 mi (2.7 km) upstream from Costilla Creek, and 5.5 mi (8.8 km) west of Jaroso.

PERIOD OF RECORD.--October 1953 to current year.

REVISED RECORDS.--WSP 1732: 1954(M). WDR CO 78-1: 1976.

GAGE.--Water-stage recorder. Altitude of gage is 7,390 ft (2,252 m), from topographic map.

REMARKS.--Records good except those for winter period, which are fair. Natural flow of stream affected by transmountain diversions, storage reservoirs, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,000 ft³/s (142 m³/s) June 10, 1979, gage height, 7.77 ft (2.368 m); no flow at times in 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 8, 1905, reached a daily discharge of 13,100 ft³/s (371 m³/s) at station near Lobatos 5.8 mi (9.3 km) upstream, was probably the greatest since at least 1828, based on information from area residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,000 ft³/s (142 m³/s) at 1930 June 10, gage height, 7.77 ft (2.368 m); minimum daily, 44 ft³/s (1.25 m³/s) Sept. 29, 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	92	268	186	175	190	250	504	1350	4060	2890	1080	243
2	92	240	210	160	190	255	490	1310	3980	2740	962	222
3	92	246	170	155	185	260	456	1420	3750	2740	870	207
4	84	252	175	160	180	255	435	1640	3350	2760	790	189
5	88	255	200	160	180	250	418	1570	3300	2620	707	175
6	86	268	175	160	180	260	398	1570	3390	2570	653	157
7	95	286	105	160	185	290	401	1730	3450	2600	615	143
8	95	277	75	155	190	335	421	1920	3630	2580	591	130
9	92	268	85	155	190	310	470	1870	4120	2510	591	115
10	90	252	115	155	190	320	555	1610	4860	2560	575	103
11	88	249	140	155	190	340	615	1280	4810	2520	658	88
12	88	255	140	160	190	355	615	1150	4180	2230	671	76
13	88	261	140	155	190	375	575	968	3550	2110	653	64
14	88	280	150	155	190	385	539	895	3350	1940	644	54
15	95	320	165	160	190	405	508	900	3580	1710	756	52
16	108	292	170	165	185	430	531	1180	3960	1550	730	52
17	234	264	165	170	185	450	666	1570	4230	1640	800	50
18	317	264	170	175	195	470	850	1560	4150	1890	880	48
19	385	255	175	170	205	480	1080	1540	3800	1900	875	47
20	431	243	180	175	195	505	1310	1720	3370	1960	738	47
21	470	237	185	180	205	531	1320	2130	3120	1900	707	47
22	498	234	185	180	215	512	1310	2430	3030	1830	662	48
23	504	237	180	180	225	504	1370	2450	3000	1680	623	50
24	527	255	180	185	230	519	1500	2570	2990	1620	595	48
25	480	274	175	190	235	543	1600	2780	3090	1480	551	47
26	411	274	175	190	240	607	1470	2920	3240	1340	504	47
27	391	268	175	190	245	599	1400	3060	3280	1240	470	47
28	385	240	175	190	250	523	1270	3120	3170	1220	378	46
29	362	207	175	190	---	531	1300	3290	3110	1160	330	44
30	346	163	175	180	---	543	1360	3590	3010	1120	280	44
31	320	---	170	185	---	531	---	3930	---	1100	261	---
TOTAL	7522	7684	5041	5275	5620	12923	25737	61023	107910	61710	20200	2730
MEAN	243	256	163	170	201	417	858	1968	3597	1991	652	91.0
MAX	527	320	210	190	250	607	1600	3930	4860	2890	1080	243
MIN	84	163	75	155	180	250	398	895	2990	1100	261	44
AC-FT	14920	15240	10000	10460	11150	25630	51050	121000	214000	122400	40070	5410

CAL YR 1978 TOTAL 88852 MEAN 243 MAX 885 MIN 38 AC-FT 176200
WTR YR 1979 TOTAL 323375 MEAN 886 MAX 4860 MIN 44 AC-FT 641400

TRANSMOUNTAIN DIVERSIONS FROM COLORADO RIVER BASIN IN COLORADO

There are 24 tunnels or ditches, all of which are equipped with water-stage recorders and Parshall flumes or sharp-crested weirs. Records furnished by Colorado Division of Water Resources. The locations of these diversions are given in the following list.

09010000 Grand River ditch diverts water from tributaries of Colorado River to La Poudre Pass Creek (tributary to Cache la Poudre River) in NW¼ sec.21, T.6 N., R.75 W., in Platte River basin. Two collection ditches beginning at headgates located in sec.28, T.5 N., R.76 W., and sec.29, T.6 N., R.75 W., intercept all tributaries upstream on each side of the Colorado River and converge at La Poudre Pass.
REVISIONS (WATER YEARS).--WSP 1313: 1912-27.

09012000 Eureka ditch diverts water from tributaries of Tonahutu Creek between headgate in sec.7, T.4 N., R.74 W., and Sprague Pass, in Colorado River basin, to Spruce Creek (tributary to Big Thompson River) in sec.16, T.4 N., R.74 W., in Platte River basin.
REVISIONS (WATER YEARS).--WSP 1313: 1949.

09013000 Alva B. Adams tunnel diverts water from Grand Lake and Shadow Mountain Lake in NW¼ sec.9, T.3 N., R.75 W., in Colorado River basin, to Lake Estes (Big Thompson River) in sec.30, T.5 N., R.72 W., in Platte River basin. For daily discharge, see elsewhere in this report.

09021500 Berthoud Pass ditch diverts water from tributaries of Fraser River between headgate in sec.33, T.2 S., R.75 W., and Berthoud Pass, in Colorado River basin, to Hoop Creek (tributary to West Fork Clear Creek) in sec.10, T.3 S., R.75 W., in Platte River basin.

09022500 Moffat water tunnel diverts water from tributaries of Williams Fork (via August P. Gumlick and Vasquez tunnels, beginning in 1959) between headgates (in secs.20 and 29, T.3 S., R.76 W.) and west portal of August P. Gumlick tunnel (in sec.28, T.3 S., R.76 W.) and from the main stem and tributaries of Fraser River between headgates (in sec.8, T.2 S., R.76 W., and sec.24, T.1 S., R.75 W.) and west portal of Moffat tunnel (in sec.11, T.2 S., R.75 W.), in Colorado River basin, to South Boulder Creek, in sec.2, T.2 S., R.74 W., in Platte River basin. (See station 09036000 in Volume 2 for diversions by August P. Gurlick tunnel.)

09042000 Hoosier Pass tunnel diverts water from tributaries of Blue River in Colorado River basin to Montgomery Reservoir (Middle Fork South Platte River) in sec.14, T.8 S., R.78 W., in Platte River basin; this water is again diverted to South Catamount Creek (tributary to Catamount Creek) in SE¼ sec.14, T.13 S., R.69 W., in the Arkansas River basin. Collection conduits extending from the right bank of Crystal Creek (tributary to Spruce Creek) in sec.14, T.7 S., R.78 W., right bank of Spruce Creek in sec.23, T.7 S., R.78 W., right bank of McCullough Gulch in sec.26, T.7 S., R.78 W., right bank of Monte Cristo Creek in SW¼NE¼ sec.2, T.8 S., R.78 W., left bank of Bemrose Creek in SW¼SW¼ sec.6, T.8 S., R.77 W., and intercepting intermediate tributaries, transport diversions to north portal of the tunnel.

09046000 Boreas Pass ditch diverts water from tributaries of Blue River between headgate in sec.26, T.7 S., R.77 W., and Boreas Pass, in Colorado River basin, to Tarryall Creek in sec.26, T.7 S., R.77 W., in Platte River basin.
REVISIONS (WATER YEARS).--WSP 1733: 1958.

09047300 Vidler tunnel diverts water from tributaries of Peru Creek (tributary to Snake River) in sec.9, T.5 S., R.75 W., in Blue River basin, to Leavenworth Creek (tributary to South Clear Creek) in sec.10, T.5 S., R.75 W., in Platte River basin.

09050590 Harold D. Roberts tunnel diverts water from Dillon Reservoir (Blue River) in sec.18, T.5 S., R.77 W., in Blue River basin, to North Fork South Platte River (tributary to South Platte River) in SW¼SW¼ sec.4, T.7 S., R.74 W., in Platte River basin. Figures include a small amount of ground-water inflow between Dillon Reservoir and east portal of tunnel.

09061500 Columbine ditch diverts water from tributaries of Eagle River in sec.5, T.8 S., R.79 W., in Colorado River basin to Chalk Creek (tributary to East Fork Arkansas River) in NW¼ sec.9, T.8 S., R.79 W., in Arkansas River basin.

09062000 Ewing ditch diverts water from Piney Creek in sec.11, T.8 S., R.80 W., in Eagle River basin, to Thayer Gulch (tributary to Tennessee Creek) in sec.11, T.8 S., R.80 W., in Arkansas River basin.

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TRANSMOUNTAIN DIVERSIONS FROM COLORADO RIVER BASIN IN COLORADO--Continued

09062500 Wurtz ditch diverts water from tributaries of Eagle River between headgate in sec.32, T.7 S., R.80 W., and Tennessee Pass, in Colorado River basin, to West Tennessee Creek (tributary to Tennessee Creek) in sec.17, T.8 S., R.80 W., in Arkansas River basin.

09063700 Homestake tunnel diverts water from Homestake Lake (Middle Fork Homestake Creek), in sec.17, T.8 S., R.81 W., in Eagle River basin, to Lake Fork in sec.9, T.9 S., R.81 W., in Arkansas River basin. Water is imported to Homestake Lake from tributaries of Homestake Creek by collection conduits that extend from right bank of French Creek in sec.28, T.7 S., R.81 W., and left bank of East Fork Homestake Creek in sec.9, T.8 S., R.81 W., and intercept intermediate tributaries.

09073000 Twin Lakes tunnel diverts water from tributaries of Roaring Fork River between headgates (in sec.21, T.11 S., R.83 W., and sec.2, T.11 S., R.83 W.), and west portal of Twin Lakes tunnel (in sec.24, T.11 S., R.83 W.), in Colorado River basin, to North Fork Lake Creek in sec.22, T.11 S., R.82 W., in Arkansas River basin.

09077160 Charles H. Boustead Tunnel diverts water from the main stem and tributaries of Fryingpan River (tributary to Roaring Fork River), in Colorado River basin, to Lake Fork in sec.10, T.9 S., R.81 W., in Arkansas River basin. Water is transported to west portal of tunnel (at lat 39°14'44", long 106°31'47"), by a series of collection conduits extending between headgates on right bank of Sawyer Creek at lat 39°15'58", long 106°38'19", and right bank of Fryingpan River at lat 39°14'40", long 106°31'49", and intercepting intermediate tributaries.

09077500 Busk-Ivanhoe tunnel diverts water from Ivanhoe Lake (Ivanhoe Creek), tributary to Fryingpan River in sec.13, T.9 S., R.82 W., in Roaring Fork River basin, to Busk Creek (tributary to Lake Fork) in sec.20, T.9 S., R.81 W., in Arkansas River basin.

09115000 Larkspur ditch diverts water from tributaries of Tomichi Creek between headgates (in sec.11, T.48 N., R.6 E., and sec.1, T.47 N., R.6 E.), and Marshall Pass, in Gunnison River basin, to Poncha Creek (tributary to South Arkansas River) in SE¼ sec.24, T.48 N., R.6 E., in Arkansas River basin.

09118200 Tarbell ditch diverts water from Lake Fork Cochetopa Creek (tributary to Cochetopa Creek), in NW¼ sec.18, T.43 N., R.2 E., in Gunnison River basin, to Lake Fork Saguache Creek (tributary to Middle Fork Saguache Creek) in NE¼ sec.18, T.43 N., R.2 E., in Rio Grande basin. All records available prior to October 1960 published in WSP 1733.

REVISIONS (WATER YEARS).--WSP 1733: 1949-51.

09121000 Tabor ditch diverts water from tributaries of Cebolla Creek in secs.29 and 36, T.43 N., R.3 W., in Gunnison River basin, to Big Spring Creek (tributary to North Clear Creek) in sec.35, T.43 N., R.3 W., in Rio Grande basin.

09341000 Treasure Pass diversion ditch diverts water from tributaries of Wolf Creek between headgates (in sec.31, T.38 N., R.2 E., and sec.6, T.37 N., R.3 E.), and Wolf Creek Pass, in San Juan River basin, to tributary of South Fork Rio Grande in sec.31, T.38 N., R.2 E., in Rio Grande basin.

09347000 Don La Font ditches 1 and 2 divert water from tributaries of Piedra River between headgates in NW¼ sec.4, T.38 N., R.1 W., and SW¼ sec.33, T.39 N., R.1 W., and Piedra Pass, in San Juan River basin, to South River in sec.4, T.38 N., R.1 W., in Rio Grande basin.

09348000 Williams Creek-Squaw Pass ditch diverts water from Williams Creek (tributary to Piedra River) in sec.13, T.39 N., R.3 W., in San Juan River basin, to Squaw Creek in sec.10, T.39 N., R.3 W., in Rio Grande basin.

09351000 Pine River-Weminuche Pass ditch diverts water from North Fork Los Pinos River (tributary to Los Pinos River) in sec.4, T.39 N., R.4 W., in San Juan River basin, to Weminuche Creek in sec.33, T.40 N., R.4 W., in Rio Grande basin.

09351500 Weminuche Pass ditch diverts water from left bank of Rincon la Vaca Creek (tributary to Los Pinos River) in sec.5, T.39 N., R.4 W., in San Juan River basin, to Weminuche Creek in sec.33, T.40 N., R.4 W., in Rio Grande basin.

DIVERSIONS, IN ACRE-FEET, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

	Diversion	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Water year
	TO PLATTE RIVER BASIN													
09010000	Grand River ditch...	0	0	0	0	0	0	0	0	4,980	8,850	3,350	751	17,940
09012000	Eureka ditch........	0	0	0	0	0	0	0	0	0	14	34	12	60
09013000	Alva B. Adams tunnel	25,150	24,980	29,210	22,520	19,090	22,560	17,340	8,880	332	4,940	12,590	10,140	198,500
09021500	Berthoud Pass ditch.	0.4	0	0	0	0	0	0	0	0	241	123	8.6	373
09022500	Moffat water tunnel.	1,910	769	614	442	321	389	613	10,170	14,710	15,450	6,770	3,570	55,740
09046000	Boreas Pass ditch...	0	0	0	0	0	0	0	0	69	76	8.4	0	154
09047300	Vidler tunnel.......	0.8	0	0	0	0	0	0	0	0	278	235	114	627
09050390	Harold D. Roberts tunnel...........	19,340	9,970	6,410	6,380	5,720	4,860	0	0	0	5,400	7,410	8,370	73,850
	Total..........................	46,400	35,720	36,230	29,340	25,930	27,810	17,950	19,050	20,090	35,250	30,520	22,970	347,300
	TO ARKANSAS RIVER BASIN													
09042000	Hoosier Pass tunnel.	0	0	0	0	0	0	0.4	1,050	3,940	1,660	1,510	1,760	9,910
09061500	Columbine ditch.....	0	0	0	0	0	0	0	182	1,350	424	59	19	2,040
09062000	Ewing ditch.........	0	0	0	0	0	0	0	162	955	322	99	53	1,590
09062500	Wurtz ditch.........	0	0	0	0	0	0	0	626	2,690	851	130	12	4,310
09063700	Homestake tunnel....	0	0	0	0	45	17,460	13,280	0	0	0	0	0	30,780
09073000	Twin Lakes tunnel...	413	284	213	177	157	155	264	8,320	27,300	6,150	3,190	436	47,060
09077160	Charles H. Boustead Tunnel............	0	0	0	0	0	0	0	6,870	29,430	16,510	1,210	0	54,020
09077500	Busk-Ivanhoe tunnel.	36	43	0	0	0	0	0	447	3,950	2,070	143	22	6,710
09115000	Larkspur ditch......	0	0	0	0	0	0	0	16	138	42	26	18	241
	Total..........................	449	327	213	177	202	17,620	13,540	17,670	69,750	28,030	6,370	2,320	156,700
	TO RIO GRANDE BASIN													
09118200	Tarbell ditch.......	0	0	0	0	0	0	0	0	0	50.6	201	45	296
09121000	Tabor ditch.........	0	0	0	0	0	0	0	169	726	284	93	29	1,300
09341000	Treasure Pass diversion ditch.........	0	0	0	0	0	0	0	0	100	290	2.4	0	392
09347000	Don La Font ditches Nos. 1 and 2......	0	0	0	0	0	0	0	0	0	157	39	0	196
09348000	Williams Creek-Squaw Pass ditch.........	0	0	0	0	0	0	0	0	0	0	0	0	0
09351000	Pine River-Weminuche Pass ditch.........	0	0	0	0	0	0	0	0	77	134	18	0	228
09351500	Weminuche Pass ditch	0	0	0	0	0	0	0	0	262	842	134	0	1,240
	Total..........................	0	0	0	0	0	0	0	169	1,160	1,760	487	74	3,650
	Grand Total..................	46,850	36,050	36,440	29,520	26,130	45,430	31,490	36,890	91,000	65,040	37,380	25,360	563,290

NOTE: Due to method of computing water year figures and rounding procedures, totals do not agree.

As the number of streams on which streamflow information is likely to be desired far exceeds the number of streamflow-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than streamflow-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or floodflow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at partial-record stations are presented in a table of annual maximum stage and discharge at crest-stage stations. Discharge measurements made at miscellaneous sites for both low flow and high flow are given in a second table.

CREST-STAGE PARTIAL-RECORD STATIONS

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained, but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS DURING WATER YEAR 1979

			Drainage area (mi²)			Annual Maximum		
Station number	Station name	Location	Total	Noncontributing	Period of record	Date	Gage height (feet)	Discharge (ft³/s)
		PLATTE RIVER BASIN						
06710200	Big Dry Creek tributary at Littleton, CO	Lat 39°35'46", long 104°57'06", in SE¼SW¼ sec.24, T.5 S., R.68 W., Arapahoe County, 500 ft (150 m) upstream from S. Clayton St., 1 mi (2 km) east of Littleton.	0.95		1969-79	8-16-79	13.15	158
06710250	South Platte River tributary at Englewood, CO	Lat 39°38'05", long 104°59'39", in SW¼NE¼ sec.10, T.5 S., R.68 W., Arapahoe County, at culvert at intersection of Fox and Stanford Sts., in Englewood. Discontinued 9-30-79.	.90		1971-73, 1975-79	7-19-79	11.63	115
06711580	Harvard Gulch tributary at Englewood, CO	Lat 39°39'34", long 104°58'16", in NE¼SW¼ sec.35, T.4 S., R.68 W., Arapahoe County, 400 ft (120 m) 470 ft (140 m) east of S. Downing St., in Englewood.	.96		1971-79	7-04-79	12.04	157
06711600	Sanderson Gulch tributary at Lakewood, CO	Lat 39°41'19", long 105°04'54", in NE¼SW¼ sec.23, T.4 S., R.69 W., Jefferson County, 300 ft (91 m) upstream from S. Wadsworth Blvd., 300 ft (91 m) south of W. Florida Ave. in Lakewood.	.38		1969-79	7-04-79	12.66	113
06714210	South Platte River tributary at Denver, CO	Lat 39°47'18", long 104°56'32", in NE¼SW¼ sec.13, T.3 S., R.68 W., Denver County, 350 ft (110 m) north of intersection of Jackson St. and E. 50th Ave., 3,000 ft (910 m) northwest of intersection of Interstage Highway 70 and Colorado Blvd. in Denver. Discontinued 9-30-79.	.75		1971-79	5-02-79	16.53	101
06714310	Sand Creek tributary at Denver, CO	Lat 39°47'07", long 104°50'31", in SW¼SW¼ sec.13, T.3 S., R.67 W., Denver County, in median of Andrews Drive Parkway, 50 ft (15 m) downstream from Troy St. in Denver.	.29		1971-79	8-10-79	11.78	126

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS DURING WATER YEAR 1979--Continued

Station number	Station name	Location	Drainage area (mi^2)		Period of record	Annual Maximum		
			Total	Noncontributing		Date	Gage height (feet)	Discharge (ft^3/s)
06719560	Lena Gulch at Lakewood, CO	Lat 39°44'28", long 105°08'45", in SW¼SW¼ sec.32, T.3 S., R.69 W., Jefferson County, on right bank at culvert on Alkire St., 1,600 ft (488 m) from Youngfield St. and 2,600 ft (792 m) southwest of intersection of W. 20th Ave. and Youngfield St. in Lakewood. Discontinued 9-30-79.	a9.0		1974-79	1979	11.80	76
06719770	Clear Creek tributary at Arvada, CO	Lat 39°49'20", long 105°03'11", in SE¼NE¼ sec.1, T.3 S., R.69 W., Jefferson County, at culvert at Sheridan Blvd., 100 ft (30 m) north of W. 69th Ave. in Arvada. Discontinued 9-30-79.	1.18		1970-79	8-19-79	13.08	231
06720200	South Platte River tributary No. 2 at Northglenn, CO	Lat 39°51'57", long 105°00'27", in SE¼NW¼ sec.21, T.2 S., R.68 W., Adams County, at culvert at Holiday Terrace 50 ft (15 m) south of Holiday Parkway, in Holiday Hills Trailer Park in Northglenn. Discontinued 9-30-79.	.57		1968-79	8-10-79	16.64	139
06720400	Kennedy Drive Drain at Northglenn, CO	Lat 39°53'25", long 104°59'12", in NE¼SW¼ sec.10, T.2 S., R.68 W., Adams County, below culvert at Interstage Highway 25, 0.3 mi (0.5 km) north of 104th Ave. in Northglenn. Discontinued 9-30-79.	.13		1968-71, 1973-79	8-10-79	15.70	120
06728200	Skunk Creek at Boulder, CO	Lat 39°59'28", long 105°16'07", in NE¼SW¼ sec.6, T.1 S., R.70 W., Boulder County, 900 ft (270 m) northeast of Kohler Reservoir, 2,000 ft (610 m) upstream from Anderson Extension Ditch crossing in Boulder. Discontinued 9-30-79.	a.7		1970-79	6-07-79	10.83	23
06728350	Goose Creek at Boulder, CO	Lat 40°01'35", long 105°16'19", in NW¼NE¼ sec.30, T.1 N., R.70 W., Boulder County, 30 ft (9 m) downstream from 19th St., 150 ft (46 m) south of Balsam Ave. in Boulder. Discontinued 9-30-79.	.69		1971-79	8-13-79	12.59	155
06728400	Boulder Creek tributary at Boulder, CO	Lat 39°58'48", long 105°14'41", in SE¼NE¼ sec.8, T.1 S., R.70 W., Boulder County, at culvert at State Highway 93 (Broadway), 2,400 ft (730 m) southeast of intersection of Broadway and Table Mesa Drive in Boulder.	.20		1970-79	5-29-79	11.19	21
06753800	Owl Creek tributary near Rockport, CO	Lat 40°55'02", long 104°46'06" (revised), in SW¼ sec.15, T.11 N., R.66 W., Weld County, 1,300 ft (440 m) upstream from county road bridge, 2 mi (3 km) east of Rockport. Discontinued 9-30-79.	b4.28	0.06	1969-79		(c)	3.0
06756200	Geary Creek tributary near Rockport, CO	Lat 40°57'41", long 104°34'55" (revised), in NE¼ sec.32, T.12 N., R.64 W., Weld County, 0.4 mi (0.6 km) upstream from mouth, 13 mi (21 km) northeast of Rockport. Discontinued 9-30-79.	b1.15		1969-79	1979	(c)	14

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS DURING WATER YEAR 1979--Continued

			Drainage area (mi²)			Annual Maximum		
Station number	Station name	Location	Total	Noncontributing	Period of record	Date	Gage height (feet)	Discharge (ft³/s)
06758150	Kiowa Creek tributary near Elbert, CO	Lat 39°12'06", long 104°30'06" (revised), in NW¼NE¼ sec.12, T.10 S., R.64 W., Elbert County, culvert on county road, 2.2 mi (3.5 km) southeast of Elbert. Discontinued 9-30-79.	b1.22	0.42	1970-79	5-25-79	11.40	35
06758250	Kiowa Creek tributary near Bennett, CO	Lat 39°36'47", long 104°27'01", in NW¼SW¼ sec.16, T.5 S., R.64 W., Arapahoe County, 3,500 ft (1,070 m) downstream from bridge on county road, 10 mi (16 km) south of Bennett. Discontinued 9-30-79.	6.41		1970-79	8-10-79	12.20	158
06758400	Goose Creek near Hoyt, CO	Lat 40°02'10", long 104°13'06", in NE¼SW¼ sec.21, T.1 N., R.61 W., Weld County, 500 ft (150 m) upstream from bridge on county road, 7.7 mi (12.4 km) west of Hoyt. Discontinued 9-30-79.	b3.79		1969-79	8-10-79	d15.4	400
06758700	Middle Bijou Creek tributary near Deer Trail, CO	Lat 39°29'33", long 104°09'46", in SE¼SE¼ sec.25, T.6 S., R.61 W., Elbert County, 300 ft (91 m) downstream from gas line crossing, 10.4 mi (16.7 km) southwest of Deer trail. Discontinued 9-30-79.	b1.74	0.06	1970-79	7-17-79	13.36	880
06759700	Sand Creek tributary near Lindon, CO	Lat d39°44'01", long d103°21'12", in NE¼ sec.6, T.4 S., R.53 W., Washington County, 0.5 mi (0.8 km) upstream from bridge on U.S. Highway 36, 3 mi (5 km) east of Lindon. Discontinued 9-30-79.	b2.45	0.73	1969-79	6-23-79	11.14	64
06759900	Antelope Draw near Union, CO	Lat 40°25'57", long 103°36'15", in NW¼NE¼ sec.2, T.5 N., R.56 W., Morgan County, 0.5 mi (0.8 km) upstream from bridge on State Highway 71, 6.5 mi (10.5 km) northwest of Union. Prior to Jan. 15, 1975, at site 0.3 mi (0.5 km) downstream. Discontinued 9-30-79.	b3.19	1.85	1969-79	1979	(c)	12
06760200	Igo Creek tributary near Keota, CO	Lat 40°47'24", long 103°57'18", in SW¼SW¼ sec.34, T.10 N., R.59 W., Weld County, 0.3 mi (0.5 km) upstream from bridge on county road, 8.5 mi (13.7 km) northeast of Keota. Discontinued 9-30-79.	b1.53		1969-79	1979	11.48	125
06760430	Spring Canyon Creek near Peetz, CO	Lat 40°58'12", long 103°00'34", in NW¼SE¼ sec.36, T.12 N., R.51 W., Logan County, 500 ft (150 m) downstream from access road to windmill, 5 mi (8 km) east of Peetz. Discontinued 9-30-79.	b22.9	b13.0	1969-79	8-18-79	10.23	11.8
KANSAS RIVER BASIN								
06821300	North Fork Arikaree River tributary near Shaw, CO	Lat 39°31'12", long 103°26'35", in NE¼ sec.21, T.6 S., R.54 W., Lincoln County, 800 ft (240 m) upstream from section road, 5 mi (8 km) southwest of Shaw. Discontinued 9-30-79.	b6.55		1969-79	8-10-79	d15.21	1270
06821400	North Fork Black Wolf Creek near Vernon, CO	Lat 39°54'24", long 102°16'08", in SW¼SE¼ sec.2, T.2 S., R.44 W., Yuma County, 50 ft (15 m) downstream from unnamed tributary, 4 mi (6 km) southeast of Vernon. Discontinued 9-30-79.	b17.0	b9.52	1969-79	1979	(d)	79

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS DURING WATER YEAR 1979--Continued

			Drainage area (mi²)			Annual Maximum		
Station number	Station name	Location	Total	Noncontributing	Period of record	Date	Gage height (feet)	Discharge (ft³/s)
06822600	Patent Creek near St. Petersburg, CO	Lat 40°29'50", long 102°46'30", in SW¼ sec.7, T.6 N., R.48 W., Logan County, 0.2 mi (0.3 km) downstream from fence line, 4.5 mi (7.2 km) southeast of St. Petersburg. Discontinued 9-30-79.	b2.37	0.71	1969-79	7-22-79	14.55	850
06825000	South Fork Republican River near Idalia, CO	Lat 39°36'59", long 102°14'32", in SE¼SW¼ sec.13, T.5 S., R.44 W., Yuma County, 0.7 mi (1.1 km) east of U.S. Highway 385 and 6.5 mi (10.5 km) southeast of Idalia.	a1300		1950-79	7-31-79	9.29	1,200
06825100	Landsman Creek tributary near Stratton, CO	Lat 39°06'43", long 102°40'25" (revised), in NE¼NE¼ sec.9, T.11 S., R.47 W., Kit Carson County, 800 ft (240 m) upstream from county road, 14 mi (23 km) southwest of Stratton. Discontinued 9-30-79.	b7.02	6.25	1972-79	5-20-79	12.43	189
06825500	Landsman Creek near Hale, CO	Lat 39°34'32", long 102°15'06", in SE¼ sec.35, T.5 S., R.44 W., Yuma County, on right bank 900 ft (270 m) upstream from bridge on U.S. Highway 385, 3.2 mi (5.1 km) upstream from mouth, and 7 mi (11 km) southwest of Hale.	268		1950-79	8-18-79	9.13	532
06826900	Sand Creek near Hale, CO	Lat 39°41'50", long 102°10'37", in SW¼NW¼ sec.22, T.4 S., R.43 W., Yuma County, 1,000 ft (300 m) downstream from bridge, 5 mi (8 km) northwest of Hale. Discontinued 9-30-79.	b14.6	b3.44	1969-79	8-25-79	11.95	30
06834200	Spring Creek tributary near Amherst, CO	Lat 40°45'09", long 102°16'12", in Sedgwick County, 800 ft (240 m) upstream from road and 7.5 mi (12.1 km) northwest of Amherst. Discontinued 9-30-79.	47.8	29.3	1969-79	1979	(c)	4.5

a Approximately.
b Revised.
c Peak discharge did not reach bottom of gage.
d From floodmark.

Station number	Stream	Tributary to	Location	Date	Discharge (ft³/s)
		PLATTE RIVER BASIN			
--------	Sacramento Creek above Fairplay, CO	Middle Fork South Platte River	Lat 39°13'26" long 106°04'06"	10-16-78	2.12
				11-08-78	1.46
				12-20-78	0.83
				01-24-79	0.60
				02-22-79	0.59
				03-21-79	0.76
				04-17-79	1.57
				05-16-79	6.19
				06-13-79	60.7
				07-18-79	29.4
				08-20-79	16.7
--------	Crooked Creek near Red Hill Pass, near Fairplay, CO	Middle Fork South Platte River	Lat 39°16'43" long 105°59'00"	10-17-78	0.02
				11-08-78	0.03
				12-28-78	0.07
				01-25-79	0.07
				03-16-79	0.19
				04-16-79	0.57
				05-17-79	0.77
				06-13-79	7.59
				07-18-79	1.56
				08-22-79	0.35
--------	Trout Creek near Como, CO	Middle Fork South Platte River	Lat 39°16'39" long 105°55'29"	10-17-78	0.59
				11-07-78	0.54
				12-20-78	0.76
				01-24-79	0.87
				02-21-79	0.94
				03-20-79	0.84
				04-17-79	0.55
				05-17-79	1.48
				06-13-79	18.3
				07-17-79	3.49
				08-22-79	3.65
--------	Salt Creek near Antero Junction, CO	Antero Reservoir	Lat 38°57'22" long 106°00'52"	10-17-78	0
				11-08-78	0.01
				12-28-78	0
				01-26-79	0
				02-22-79	0
				03-22-79	0
				04-18-79	0
				05-16-79	5.87
				06-14-79	27.6
				07-19-79	5.18
				08-21-79	1.60
--------	Threemile Creek near Elevenmile Canyon Reservoir, CO	South Platte River	Lat 38°56'08" long 105°36'57"	10-17-78	0.17
				11-08-78	0.10
				01-26-79	0.15
				03-16-79	0.15
				04-18-79	0.31
				05-15-79	0.28
				06-14-79	0.42
				07-19-79	0.37
				08-21-79	0.23
		ARKANSAS RIVER BASIN			
--------	Arkansas River at Pine Creek School Granite, CO		Lat 38°58'38" long 106°12'46"	06-07-79	2760
				06-13-79	2120
				07-16-79	1670

SUMMARY OF DISCHARGE

The following table contains the record of peak flows at selected sites for the flood that occurred on March 17-18, 1979, when a deflatable dam on a reservoir in Wheatridge, Colorado, collapsed and released a substantial amount of water down Lena Gulch. Discharges were determined by indirect measurements.

Name	Location	Discharge (ft^3/s)
Lena Gulch below 32nd Avenue at Wheatridge, CO	Lat 39°45'44", long 105°08'08", Jefferson County, approximately 100 ft (30.5 m) downstream from 32nd Avenue bridge.	720
Lena Gulch at Nelson St. at Wheatridge, CO	Lat 39°46'06", long 105°07'03", Jefferson County, at upstream side of bridge culvert at Nelson St.	380
Lena Gulch at Kipling St. at Wheatridge, CO	Lat 39°46'20", long 105°06'32", Jefferson County, approximately 200 ft (70 m) downstream from Kipling St. bridge.	240

STREAMFLOW GAIN AND LOSS INVESTIGATIONS ALONG ST. VRAIN AND LEFT-HAND CREEKS

Six series of streamflow gain and loss measurements were made during the 1978 and 1979 water years along St. Vrain and Left-hand Creeks. The measurements were made along St. Vrain Creek on Oct. 19, 1977, Mar. 28, 1978, Aug. 30, 1978, Oct. 20, 1978, Mar. 16, 1979, and Aug. 23, 1979, and along Left-hand Creek on Oct. 28, 1977, Mar. 28, 1978, Sept. 6, 1978, Oct. 17, 1978, Mar. 30, 1979, and Aug. 30, 1979. Two additional series of measurements for October 1976 and March 1977 have previously been published for the 1977 water year. These measurements were taken during periods of generally stable streamflow conditions and included the outflows of the main stems by major diversions and inflows from tributaries or other sources.

The following tabulation of data shows the measured discharge, water temperature, and specific conductance for each site. Although sites are listed in downstream order, the site numbers given are used for filing purposes and have no relation to river miles.

Site no.	Site name and location	Date	Discharge (ft³/s)	Temperature (°C)	Specific conductance
	ST. VRAIN CREEK				
46.0	St. Vrain Creek at Lyons (station 06724000), NW¼NW¼ NW¼NW¼ sec.20, T.3 N., R70 W.	10-19-77	15.9	12.0	69
		03-28-78	12.4	12.5	78
		08-30-78	144	17.0	29
		10-20-78	11.7	10.5	80
		03-16-79	13.4	10.0	76
		08-23-79	102	17.0	44
45.0	St. Vrain supply return at Lyons, NW¼NW¼ sec.20, T.3 N., R.70 W.	10-19-77	34.2	11.0	100
		03-28-78	0	-	-
		08-30-78	128	10	77
		10-20-78	8.86	12.5	78
		03-16-79	0	-	-
		08-23-79	0	-	-
44.0	Stone Canyon at Lyons, NE¼NW¼ sec.20, T.3 N., R.70 W.	10-19-77	*.20	14	444
		03-28-78	0	-	-
		08-30-78	*.40	18	268
		10-20-78	.24	15.5	240
		03-16-79	.19	12.0	244
		08-23-79	0	-	-
43.0	Highland ditch at Lyons, NE¼NW¼ sec.20, T.3 N., R.70 W.	10-19-77	0	-	-
		03-28-78	0	-	-
		08-30-78	170	15.0	51
		10-20-78	0	-	-
		03-16-79	0	-	-
		08-23-79	22.9	20.0	46
42.0	Rough and Ready ditch at Lyons, SW¼NE¼ sec.20, T.3 N., R.70 W.	10-19-77	25.4	11.0	96
		03-28-78	0.24	15.0	112
		08-30-78	18.8	17.5	47
		10-20-78	*0.8	14.5	100
		03-16-79	.20	12.0	116
		08-23-79	19.3	20.5	55
40.0	St. Vrain and Palmerton ditch at Lyons, SW¼NE¼ sec.20, T.3 N., R.70 W.	10-19-77	2.13	10.5	96
		03-28-78	.20	15.0	110
		08-30-78	16.8	17.5	46
		10-20-78	1.36	13.5	94
		03-16-79	.80	10.5	95
		08-23-79	1.06	21.0	56
39.0	Swede ditch near Lyons, NW¼SE¼ sec.20, T.3 N., R.70 W.	10-19-77	5.05	10.5	104
		03-28-78	.13	14.0	107
		08-30-78	13.5	18.5	45
		10-20-78	2.96	13.0	93
		03-16-79	.15	10.5	97
		08-23-79	1.28	20.5	66
38.0	Smead ditch near Lyons, NW¼SE¼ sec.20, T.3 N., R.70 W.	10-19-77	3.44	10.5	103
		03-28-78	1.30	14.0	217
		08-30-78	4.97	18.5	44
		10-20-78	2.11	13.0	94
		03-16-79	.68	10.5	97
		08-23-79	1.47	20.5	63
37.0	Montgomery ditch near Lyons, SE¼NE¼ sec.20, T.3 N., R.70 W.	10-19-77	0	-	-
		03-28-78	0	-	-
		08-30-78	0	-	-
		10-20-78	0	-	-
		03-16-79	0	-	-
		08-23-79	0	-	-

Site no.	Site name and location	Date	Discharge (ft³/s)	Temperature (°C)	Specific conductance
36.0	Longmont Filtration Plant return near Lyons, SE¼NE¼ sec.20, T.3 N., R.70 W.	10-19-77	.31	13.0	110
		03-28-78	.48	6.5	52
		08-30-78	1.16	12.5	63
		10-20-78	.27	11.0	52
		03-16-79	.20	8.5	79
		08-23-79	.54	13.0	86
35.0	St. Vrain Creek near Lyons, NE¼SW¼ sec.21, T.3 N., R.70 W.	10-19-77	14.6	13.0	172
		03-28-78	12.0	7.0	121
		08-30-78	49.1	14.5	80
		10-20-78	16.3	10.0	115
		03-16-79	15.3	9.5	104
		08-23-79	58.9	14.0	70
34.0	Foothills Reservoir inlet near Lyons, NW¼SE¼ sec.21, T.3 N., R.70 W.	10-19-77	.28	12.0	128
		03-28-78	.71	8.0	120
		08-30-78	*.04	19.5	140
		10-20-78	.38	10.0	102
		03-16-79	1.85	9.5	104
		08-23-79	.42	14.5	113
33.0	South Branch outflow near Lyons, NE¼SE¼ sec.21, T3 N., R.70 W.	10-19-77	6.88	15.0	160
		03-28-78	.60	10.0	133
		08-30-78	19.5	16.0	55
		10-20-78	9.25	11.0	116
		03-16-79	.14	10.0	150
		08-23-79	8.79		
32.0	Unnamed drain near Lyons, SE¼SW¼ sec.22, T.3 N., R.70 W.	10-19-77	.36	13.5	1,180
		03-28-78	.02	12.0	231
		08-30-78	.36	15.5	1,350
		10-20-78	.25	14.0	1,280
		03-16-79	.06	9.0	1,654
		08-23-79	.20	15.0	1,350
31.0	Longmont supply ditch near Lyons, SE¼SW¼ sec.22, T.3 N., R.70 W.	10-19-77	.14	14.5	302
		03-28-78	0	-	-
		08-30-78	9.39	16.5	132
		10-20-78	.16	11.0	367
		03-16-79	0	-	-
		08-23-79	7.94	16.5	149
30.0	Chapman and McCaslin ditch near Lyons, SE¼SW¼ sec.22, T.3 N., R.70 W.	10-19-77	0.77	16.5	325
		03-28-78	0	-	-
		08-30-78	3.17	16.5	87
		10-20-78	1.18	11.0	280
		03-16-79	0	-	-
		08-23-79	.01	17.0	217
29.0	Foothills Reservoir return near Hygiene, SE¼NE¼ sec.27, T.3 N., R.70 W.	10-19-77	*0.5	15.0	549
		03-28-78	.33	8.5	293
		08-30-78	11.6	21.5	469
		10-20-78	3.21	9.5	310
		03-16-79	.25	11.5	461
		08-23-79	*.30	14.0	255
28.0	Oligarchy ditch near Hygiene, SE¼NE¼ sec.27, T.3 N., R.70 W.	10-19-77	0	-	-
		03-28-78	7.01	9.0	207
		08-30-78	11.3	16.0	222
		10-20-78	0	-	-
		03-16-79	14.2	12.0	176
		08-23-79	4.56	16.0	115
27.0	St. Vrain Creek near Hygiene, SE¼NE¼ sec.27, T.3 N., R.70 W.,	10-19-77	8.97	12.0	316
		03-28-78	3.23	10.0	228
		08-30-78	25.1	15.5	252
		10-20-78	11.2	10.0	281
		03-16-79	.86	12.0	235
		08-23-79	42.3	17.0	106
26.0	Denio and Taylor ditch near Hygiene, NE¼NE¼ sec.35, T.3 N., R.70 W.	10-19-77	0	-	-
		03-28-78	*.05	13.0	262
		08-30-78	2.17	19.5	237
		10-20-78	.89	10.5	278
		03-16-79	*.01	12.0	387
		08-23-79	1.20	18.0	111

Site no.	Site name and location	Date	Discharge (ft^3/s)	Temperature (°C)	Specific conductance
25.0	Runyon ditch near Hygiene, NE¼NE¼ sec.35, T.3 N., R.70 W.	10-19-77	0	-	-
		03-28-78	*.10	13.0	255
		08-30-78	3.10	19.5	230
		10-20-78	0	-	-
		03-16-79	0	-	-
		08-23-79	*.01	18.0	113
24.0	Zweck and Turner ditch near Hygiene, SW¼NW¼ sec.36, T.3 N., R.70 W.	10-19-77	0	-	-
		03-28-78	0	-	-
		08-30-78	6.41	23.0	230
		10-20-78	2.52	11.0	277
		03-16-79	1.01	11.0	374
		08-23-79	.98	18.0	113
23.0	South Branch inflow at Hygiene, SE¼SW¼ sec.36, T.3 N., R.70 W.	10-19-77	6.23	17.5	380
		03-28-78	1.13	14.0	592
		08-30-78	11.7	24.0	288
		10-20-78	7.01	12.5	345
		03-16-79	1.26	12.0	907
		08-23-79	15.5	20.5	175
22.0	St. Vrain Creek at Hygiene, SE¼SW¼ sec.36, T.3 N., R.70 W.	10-19-77	9.92	17.0	339
		03-28-78	5.87	17.0	350
		08-30-78	18.3	22.0	291
		10-20-78	10.0	12.0	346
		03-16-79	1.54	13.5	829
		08-23-79	56.0	19.5	167
21.0	Niwot ditch near Hydiene, SE¼SE¼ sec.36, T.3 N., R.70 W.	10-19-77	1.88	18.0	360
		03-28-78	1.56	16.5	408
		08-30-78	3.90	23.5	280
		10-20-78	.88	15.5	325
		03-16-79	1.67	13.5	809
		08-23-79	5.04	21.0	164
20.0	Hager Meadow ditch near Hygiene, SW¼SW¼ sec.31, T.3 N., R.69 W.	10-19-77	1.02	18.0	367
		03-28-78	3.80	16.5	413
		08-30-78	1.53	23.5	278
		10-20-78	1.90	16.0	327
		03-16-79	.05	13.0	811
		08-23-79	1.36	22.0	164
19.0	South Flat ditch near Hygiene, NE¼NW¼ sec.6, T.2 N., R.69 W.	10-19-77	*.02	16.0	373
		03-28-78	3.80	17.0	420
		08-30-78	8.78	25.0	282
		10-20-78	3.0	-	-
		03-16-79	.07	*13.0	525
		08-23-79	.39	23.0	176
18.0	Mason-Meadow ditch near Hygiene, NE¼NW¼ sec.6, T.2 N., R.69 W.	10-19-77	*.02	16.0	374
		03-28-78	*.03	17.0	439
		08-30-78	2.58	25.0	290
		10-20-78	0	-	-
		03-16-79	0	-	-
		08-23-79	0	-	-
17.0	Unnamed drain near Longmont, NW¼NE¼ sec.6, T.2 N., R.69 W.	10-19-77	.41	17.0	532
		03-28-78	*.05	18.0	2,180
		08-30-78	.58	-	479
		10-20-78	.20	15.0	481
		03-16-79	.03	5.0	601
		08-23-79	.35	16.5	533
16.0	Unnamed drain at Longmont, NW¼NE¼ sec.5, T.2 N., R.69 W.	10-19-77	*.05	16.0	2,000
		03-28-78	*.20	18.0	2,180
		08-30-78	6.18	22.0	820
		10-20-78	.48	16.0	1,240
		03-16-79	.29	5.0	601
		08-23-79	1.50	21.0	1,220
15.0	St. Vrain Creek at Longmont, NE¼SE¼ sec.5, T.2 N., R.69 W.	10-19-77	2.61	7.5	685
		03-28-78	1.21	7.0	380
		08-30-78	10.8	18.0	693
		10-20-78	14.3	9.0	929
		03-16-79	2.27	9.0	1,150
		08-23-79	47.0	23.0	266

Site no.	Site name and location	Date	Discharge (ft³/s)	Temperature (°C)	Specific conductance
14.0	Unnamed drain no. 2 at Longmont, NW¼NE¼ sec.9, T.2 N., R.69 W.	10-19-77	3.18	9.0	468
		03-28-78	.03	8.0	1,050
		08-30-78	*.10	18.0	1,200
		10-20-78	.04	10.0	1,130
		03-16-79	0	-	-
		08-23-79	.20	20.5	1,350
13.0	Dicker's ditch at Longmont, NE¼NE¼ sec.9, T.2 N., R.69 W.	10-19-77	0	-	-
		03-28-78	0	-	-
		08-30-78	0	-	-
		10-20-78	0	-	-
		03-16-79	.02	14.0	996
		08-23-79	.07	-	1,140
12.0	Denio and Taylor ditch return at Longmont, NE¼NW¼ sec.10, T.2 N., R.69 W.	10-19-77	0	-	-
		03-28-78	0	-	-
		08-30-78	*.10	18.0	707
		10-20-78	.04	9.0	465
		03-16-79	0	-	-
		08-23-79	Tr	-	-
11.0	Dry Creek at Longmont, SW¼NE¼ sec.10, T.2 N., R.69 W.	10-19-77	8.37	9.0	830
		03-28-78	3.34	8.0	370
		08-30-78	16.6	16.0	996
		10-20-78	6.89	9.5	1,180
		03-16-79	4.60	10.5	1,670
		08-23-79	25.1	21.0	1,420
10.0	The Slough at Longmont, SE¼SE¼ sec.3, T.2 N., R.69 W.	10-19-77	1.12	13.5	1,680
		03-28-78	1.58	14.0	1,610
		08-30-78	6.62	16.0	1,040
		10-20-78	1.28	15.0	1,990
		03-16-79	1.14	14.5	1,630
		08-23-79	3.26	22.0	1,520
9.0	Bonus ditch at Longmont, SW¼NE¼ sec.10, T.2 N., R.69 W.	10-19-77	0	-	-
		03-28-78	3.40	9.5	1,140
		08-30-78	7.31	15.0	894
		10-20-78	0	-	-
		03-16-79	0	-	-
		08-23-79	0	-	-
8.0	St. Vrain Creek above Left-hand Creek, at Longmont, SE¼NW¼ sec.11, T.2 N., R.69 W.	10-19-77	19.3	12.0	853
		03-28-78	4.68	14.5	1,490
		08-30-78	33.3	17.0	940
		10-20-78	22.2	-	949
		03-16-79	10.9	12.5	1,400
		08-23-79	86.6	21.0	790
7.0	Left-hand Creek at mouth, at Longmont, SE¼NW¼ sec.11, T.2 N., R.69 W.	10-19-77	2.77	12.5	1,540
		03-28-78	2.36	11.5	1,330
		08-30-78	14.2	15.0	1,000
		10-20-78	6.02	13.0	1,460
		03-16-79	4.03	15.5	1,500
		08-23-79	5.76	20.0	1,180
6.0	Unnamed drain no. 3 at Longmont, SE¼NW¼ sec.11, T.2 N., R.69 W.	10-19-77	.90	14.5	1,910
		03-28-78	.61	12.0	1,830
		08-30-78	.59	18.0	1,850
		10-20-78	1.34	15.0	1,870
		03-16-79	1.08	5.5	1,720
		08-23-79	.80	18.0	1,980
5.0	Longmont Sewage outfall near Longmont, SW¼NE¼ sec.11, T.2 N., R.69 W.	10-19-77	7.74	19.5	1,200
		03-28-78	7.74	14.0	1,040
		08-30-78	13.2	21.0	1,380
		10-20-78	5.26	19.5	1,160
		03-16-79	8.12	12.0	992
		08-23-79	11.7	20.0	1,340
4.5	Unnamed drain no. 2 near Longmont, SE¼NE¼ sec.11, T.2 N., R.69 W.	10-19-77	.87	13.0	1,780
		03-28-78	1.08	12.0	1,770
		08-30-78	1.20	16.0	1,780
		10-20-78	1.00	11.5	1,720
		03-16-79	1.00	7.5	1,840
		08-23-79	.92	19.0	790

Site no.	Site name and location	Date	Discharge (ft³/s)	Temperature (°C)	Specific conductance
4.0	Unnamed drain no. 3 near Longmont, NE¼SE¼ sec.12, T.2 N., R.69 W.	10-19-77	.15	15.5	1,740
		03-28-78	.07	19.0	1,750
		08-30-78	*.10	18.0	2,200
		10-20-78	.04	12.0	2,790
		03-16-79	.10	14.5	1,700
		08-23-79	.38	17.0	2,320
3.0	Dry Creek near Longmont, NW¼NW¼ sec.18, T.2 N., R.68 W.	10-19-77	5.63	12.0	1,880
		03-28-78	3.71	15.0	2,200
		08-30-78	36.9	16.0	1,380
		10-20-78	8.90	13.0	1,580
		03-16-79	4.19	11.5	2,280
		08-23-79	18.3	16.0	1,650
2.0	Spring Gulch near Longmont, NW¼NE¼ sec.7, T.2 N., R.68 W.	10-19-77	3.69	15.5	1,900
		03-28-78	1.92	14.5	1,710
		08-30-78	23.4	16.0	1,770
		10-20-78	4.30	15.0	1,760
		03-16-79	2.58	13.0	1,700
		08-23-79	7.02	14.0	2,090
1.0	St. Vrain Creek below Longmont (station 06745450), NW¼NW¼ sec.9, T.2 N., R.68 W.	10-19-77	43.4	16.5	1,360
		03-28-78	26.6	17.0	1,490
		08-30-78	103	18.0	1,300
		10-20-78	60.8	14.5	1,260
		03-16-79	29.8	5.0	1,560
		08-23-79	141	15.5	1,130
	LEFT-HAND CREEK				
19.0	Left-hand Creek at Altona, NE¼NE¼ sec.24, T.2 N., R.71 W.	10-28-77	2.89	4.0	95
		03-28-78	3.31	4.0	206
		09-06-78	9.73	14.0	59
		10-17-78	.12	8.5	247
		03-30-79	5.03	4.0	228
		08-30-79	5.69	17.5	106
18.0	Allens Lake return at Altona, SW¼SW¼ sec.18, T.2 N., R.70 W.	10-28-77	3.75	9.0	88
		03-28-78	.22	6.0	143
		09-06-78	1.08	20.5	54
		10-17-78	2.94	11.5	71
		03-30-79	10.4	7.0	155
		08-30-79	4.0	21.0	72
17.0	Crocker ditch at Altona, NW¼NW¼ sec.19, T.2 N., R.70 W.	10-28-77	.08	6.5	96
		03-28-78	0	-	-
		09-06-78	1.93	13.5	60
		10-17-78	*.02	11.0	87
		03-30-79	.03	5.0	195
		08-30-79	T	-	-
16.0	Table Mountain ditch at Altona, NE¼NW¼ sec.19, T.2 N., R.70 W.	10-28-77	3.56	..0	119
		03-28-78	.01	6.5	210
		09-06-78	5.11	15.0	63
		10-17-78	2.42	11.0	92
		03-30-79	*.05	7.5	182
		08-30-79	*.05	20.0	101
15.0	Bader ditch at Altona, NE¼NW¼ sec.19, T.2 N., R.70 W.	10-28-77	0	-	-
		03-28-78	0	-	-
		09-06-78	.06	14.5	63
		10-17-78	0	-	-
		03-30-79	0	-	-
		08-30-79	*.06	18.0	102
14.0	Left-hand Valley Reservoir ditch near Altona, NE¼SE¼ sec.19, T.2 N., R.70 W.	10-28-77	2.02	8.0	136
		03-28-78	3.96	6.5	208
		09-06-78	1.60	18.0	73
		10-17-78	*.03	-	-
		03-30-79	0	-	-
		08-30-79	8.60	22.0	107
13.5	Left-hand Creek near Altona, NE¼SE¼ sec.19, T.2 N., R.70 W.	10-28-77	.05	8.5	116
		03-28-78	.02	10.5	213
		09-06-78	.82	18.0	71
		10-17-78	.04	9.5	233
		03-30-79	16.2	8.0	182
		08-30-79	*.02	25.0	120

Site no.	Site name and location	Date	Discharge (ft³/s)	Temperature (°C)	Specific conductance
13.0	Johnson ditch near Altona, NE¼NW¼ sec.29, T.2 N., R.70 W.	10-28-77	0	-	-
		03-28-78	0	-	-
		09-06-78	*.10	20.0	186
		10-17-78	0	-	-
		03-30-79	0	-	-
		08-30-79	0	-	-
12.0	Unnamed drain near Altona, NE¼NE¼ sec.29, T.2 N., R.70 W.	10-28-77	0	-	-
		03-28-78	0	-	-
		09-06-78	0	-	-
		10-17-78	0	-	-
		03-30-79	0	-	-
		08-30-79	*.06	19.5	527
11.0	Star ditch near Niwot, SE¼NE¼ sec.29, T.2 N., R.70 W.	10-28-77	.68	10.5	419
		03-28-78	.49	11.0	375
		09-06-78	*.40	21.5	265
		10-17-78	.18	10.0	484
		03-30-79	.32	8.5	197
		08-30-79	.15	19.5	530
10.0	Left-hand Creek near Niwot, NW¼SW¼ sec.28, T.2 N., R.70 W.	10-28-77	.20	13.0	556
		03-28-78	.01	12.5	623
		09-06-78	2.11	23.5	301
		10-17-78	.48	12.0	516
		03-30-79	15.1	8.5	197
		08-30-79	.97	20.5	557
9.0	Hinman ditch near Niwot, NW¼SW¼ sec.28, T.2 N., R.70 W.	10-28-77	0	-	-
		03-28-78	0	-	-
		09-06-78	0	-	-
		10-17-78	0	-	-
		03-30-79	0	-	-
		08-30-79	0	-	-
8.0	Left-hand Valley Reservoir return near Niwot, NE¼SW¼ sec.28, T.2 N., R.70 W.	10-28-77	6.50	12.5	359
		03-28-78	0	-	-
		09-06-78	*.03	25.0	153
		10-17-78	*.03	11.0	278
		03-30-79	0	-	-
		08-30-79	*.04	18.0	210
7.0	Holland ditch near Niwot, NW¼SE¼ sec.28, T.2 N., R.70 W.	10-28-77	4.22	12.0	371
		03-28-78	0	-	-
		09-06-78	2.39	23.0	300
		10-17-78	.56	11.5	550
		03-30-79	.03	12.0	215
		08-30-79	.56	17.0	579
6.5	Left-hand Creek below Holland ditch, near Niwot, NW¼SE¼ sec.28, T.2 N., R.70 W.	10-28-77	2.69	12.5	369
		03-28-78	.08	13.0	597
		09-06-78	*.02	21.5	682
		10-17-78	.22	11.5	542
		03-30-79	15.8	10.5	203
		08-30-79	.73	18.0	555
6.0	Boulder feeder canal near Niwot, SE¼SE¼ sec.28, T.2 N., R.70 W.	10-28-77	0	-	-
		03-28-78	0	-	-
		09-06-78	0	-	-
		10-17-78	0	-	-
		03-30-79	0	-	-
		08-30-79	0	-	-
5.0	Williamson ditch near Niwot, NE¼SE¼ sec.27, T.2 N., R.70 W.	10-28-77	3.44	12.0	387
		03-28-78	0	-	-
		09-06-78	4.44	19.5	1,620
		10-17-78	.82	11.5	587
		03-30-79	.08	11.0	256
		08-30-79	.49	15.0	549
4.0	Left-hand Creek below Williamson ditch, near Niwot, NE¼SE¼ sec.27, T.2 N., R.70 W.	10-28-77	0	-	-
		03-28-78	.28	15.0	557
		09-06-78	0	-	-
		10-17-78	*.10	11.5	587
		03-30-79	14.3	11.5	230
		08-30-79	1.26	15.5	550

Site no.	Site name and location	Date	Discharge (ft^3/s)	Temperature (°C)	Specific conductance
3.0	Left-hand Creek at Niwot, SW¼NE¼ sec.26, T.2 N., R.70 W.	10-28-77	.35	13.0	1,720
		03-28-78	.36	17.0	1,270
		09-06-78	.53	25.5	1,330
		10-17-78	.39	12.5	1,550
		03-30-79	16.9	11.5	273
		08-30-79	1.87	17.0	811
2.0	Left-hand Creek near Longmont, SE¼NW¼ sec.20, T.2 N., R.69 W.	10-28-77	2.65	10.0	1,500
		03-28-78	1.86	16.0	1,320
		09-06-78	5.32	23.0	1,120
		10-17-78	3.43	12.5	1,280
		03-30-79	17.4	11.0	438
		08-30-79	5.18	22.0	1,280
1.0	Left-hand Creek above Bonus ditch, at Longmont, SE¼NW¼ sec.11, T.2 N., R.69 W.	10-28-77	4.44	13.5	1,450
		03-28-78	2.96	11.5	1,330
		09-06-78	14.1	23.0	1,130
		10-17-78	7.74	13.0	1,270
		03-30-79	18.6	11.5	552
		08-30-79	8.27	20.5	1,420

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*Field estimate.

Samples are collected at sites other than gaging stations and partial-record stations to give coverage in a river basin. Such sites are referred to as miscellaneous sites.

PLATTE RIVER BASIN

COOPERATION.--Water-quality data for those stations marked with * provided by U.S. Army Corps of Engineers, Omaha.

06708000 - SOUTH PLATTE RIVER AT WATERTON, CO.*

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	TEMPERATURE (DEG C)
OCT			
04...	1510	40	8.5
19...	0915	48	7.5
NOV			
03...	1625	57	9.5
14...	1020	15	2.0
30...	1015	12	1.5
DEC			
14...	1250	25	2.5
28...	1215	29	.0
JAN			
09...	1020	E10	.0
18...	1335	15	1.0
FEB			
08...	1105	7.4	1.0
28...	1215	15	1.0
MAR			
15...	1055	25	4.0
27...	1050	16	7.0
APR			
13...	1125	34	5.0
25...	1220	23	11.0
MAY			
10...	1335	28	10.0
24...	1440	183	12.0
JUN			
06...	1015	269	14.5
08...	1125	864	7.0
11...	1205	814	11.5
19...	0830	1140	12.0
19...	1100	1170	--
19...	1200	1200	--
20...	1040	1150	9.0
JUL			
03...	1000	691	15.0
18...	1115	348	14.0
25...	0900	272	12.0
25...	1100	272	--
AUG			
01...	1220	269	13.0
13...	1025	148	13.0
16...	1100	417	--
16...	1315	411	13.0
29...	1500	83	18.5
SEP			
12...	1020	58	14.5
26...	1215	68	15.0

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRATE DISSOLVED (MG/L AS NO3)	NITROGEN, NITRITE TOTAL (MG/L AS N)
JAN									
09...	1020	E10	310	8.1	11.4	5	--	--	.00
JUN									
19...	0830	1140	225	7.8	9.0	--	--	--	--
19...	1100	1170	--	--	--	18	.06	.30	.00
19...	1200	1200	--	--	--	12	--	--	.00
JUL									
25...	0900	272	420	7.9	8.6	--	--	--	--
AUG									
16...	1315	411	440	8.2	8.2	10	--	--	--

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, HYDRO. + ORTHO TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN								
09...	--	.01	0	0	.0	9	0	2.0
JUN								
19...	--	--	--	--	--	--	--	--
19...	.40	.03	0	--	.0	--	--	7.0
19...	.20	--	--	1	--	4	0	4.0
JUL								
25...	--	--	--	--	--	--	--	--
AUG								
16...	--	.02	--	--	.0	--	--	5.0

E ESTIMATED

PLATTE RIVER BASIN

06709600 - CHATFIELD LAKE NEAR LITTLETON, CO. *

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)
JAN						
10...	1305	.1	325	8.7	.0	10.0
10...	1306	2.0	300	7.9	.0	9.6
10...	1307	3.0	300	8.8	2.0	9.4
10...	1308	9.0	300	8.7	2.5	8.4
10...	1309	15	320	8.2	3.0	6.9
10...	1310	21	360	7.9	3.0	5.8
10...	1350	.0	325	8.7	.0	10.0
10...	1351	1.0	300	8.8	.0	9.6
10...	1352	3.0	300	8.8	2.0	9.4
JUN						
21...	0950	.0	210	8.6	18.5	8.0
21...	0951	1.6	210	8.6	17.0	8.0
21...	0952	3.0	210	8.6	16.5	7.2
21...	0953	9.0	210	8.3	15.5	7.0
21...	0954	16	205	7.6	14.0	5.3
21...	0955	22	205	7.4	13.0	4.8
21...	0956	29	200	7.2	12.0	4.4
21...	0957	36	--	--	11.0	4.2
21...	1357	11	--	--	11.0	4.2
JUL						
10...	1605	.0	--	--	23.8	10.2
10...	1606	1.0	--	--	23.7	10.1
10...	1607	3.0	--	--	22.9	10.2
10...	1608	9.0	--	--	20.0	8.8
10...	1609	16	--	--	19.2	7.1
10...	1610	22	--	--	18.8	6.1
10...	1611	29	--	--	17.9	5.3
10...	1612	36	--	--	17.5	4.7
10...	1613	42	--	--	16.0	2.0
10...	1614	49	--	--	16.0	2.6
25...	1415	.0	320	8.8	20.5	7.2
25...	1416	1.0	310	8.8	20.0	7.2
25...	1417	3.0	300	8.9	20.0	7.2
25...	1418	9.0	320	8.8	18.5	5.8
25...	1419	16	350	8.0	15.5	3.2
25...	1420	22	360	7.7	15.0	3.4
25...	1421	29	365	7.6	15.0	3.4
25...	1422	36	--	--	14.5	2.8
AUG						
15...	1340	.1	320	8.5	21.0	7.0
15...	1341	1.0	320	8.5	21.0	7.2
15...	1342	3.0	315	8.4	20.0	7.3
15...	1343	9.0	315	8.3	19.5	6.2
15...	1344	16	315	8.1	19.0	5.6
15...	1345	22	310	7.5	18.5	2.8
15...	1346	29	315	7.2	18.0	1.0
15...	1347	36	--	--	17.5	.1

PLATTE RIVER BASIN

06709600 - CHATFIELD LAKE NEAR LITTLETON, CO. *

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SAMPLING DEPTH (FT)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	HARDNESS (MG/L AS CACO3)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, HYDRO. + ORTHO TOTAL (MG/L AS P)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)
JAN												
10...	.1	10	--	9.0	.28	.00	.30	.01	50	0	67	0
JUN												
21...	5.0	24	--	5.0	.26	.00	.93	.02	510	1	30	0
JUL												
25...	.0	22	3	10	.06	.00	1.2	.01	--	1	--	--
AUG												
15...	.1	17	--	12	.04	--	.80	.03	--	--	--	--

DATE	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN												
10...	1	0	6	80	10	67	4.0	6	0	0	10	6.0
JUN												
21...	3	0	8	1625	14	57	.4	3	0	0	31	7.0
JUL												
25...	--	--	--	--	--	--	.4	--	--	--	--	9.0
AUG												
15...	--	--	--	--	--	--	.9	--	--	--	--	--

PLATTE RIVER BASIN

06709610 - SOUTH PLATTE RIVER BELOW CHATFIELD LAKE, CO.*

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)
JAN								
09...	1340	13	320	7.8	4.0	9.2	10	4.0
JUN								
19...	1040	1780	190	7.6	15.5	8.2	18	.50
JUL								
25...	1120	380	360	7.8	16.0	6.2	10	.50
AUG								
16...	1415	505	320	7.6	18.5	7.6	15	.70

DATE	PHOSPHORUS, HYDRO. + ORTHO TOTAL (MG/L AS P)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN								
09...	.02	90	60	0	.0	8	0	3.0
JUN								
19...	--	770	40	2	.0	7	0	6.0
JUL								
25...	--	--	--	--	.0	--	--	5.0
AUG								
16...	--	--	--	--	.2	--	--	--

PLATTE RIVER BASIN

06711800 - TURKEY CREEK NEAR MORRISON, CO.*

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)
JAN 09...	1540	.48	1600	8.3	2.0	8.6	8	10	1.8	.00
JUN 19...	1530	61	190	7.9	14.5	7.9	31	5.0	.28	--
JUL 24...	1515	.60	1450	8.3	21.0	7.8	9	42	.42	--
AUG 11...	1100	--	--	--	--	--	12	27	.54	--
16...	1115	.64	1300	8.2	15.5	7.8	--	--	--	--

DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, HYDRO, + ORTHO TOTAL (MG/L AS P)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)
JAN 09...	.40	.24	50	0	72	0	4	0	9
JUN 19...	.60	.09	3000	0	30	1	53	8	4
JUL 24...	.30	.01	--	1	--	--	--	--	--
AUG 11...	.40	.06	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN 09...	460	50	69	.1	22	2	3	17	3.0
JUN 19...	2800	14	--	.2	6	--	1	16	9.0
JUL 24...	--	--	--	.0	--	--	--	--	5.0
AUG 11...	--	--	--	.0	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--

PLATTE RIVER BASIN

06711100 - BEAR CREEK LAKE AT LAKEWOOD, CO.*

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (IN)	OXYGEN, DIS- SOLVED (MG/L)
JAN							
11...	1000	.1	1200	7.3	.0	--	12.2
11...	1001	1.7	1200	8.2	2.0	--	14.8
11...	1002	3.3	1200	8.3	2.5	--	14.0
11...	1003	9.9	2600	7.7	6.0	--	.0
JUN							
21...	1310	.1	145	7.8	15.0	--	8.4
21...	1311	1.6	145	7.8	15.0	--	7.6
21...	1312	3.3	140	7.9	14.5	--	8.2
21...	1313	9.9	135	7.5	11.0	--	7.7
21...	1314	16	135	7.4	10.0	--	7.6
21...	1315	23	180	7.2	7.0	--	6.4
21...	1316	30	200	7.2	7.0	--	6.1
21...	1317	36	215	7.2	7.0	--	5.8
21...	1318	43	220	7.2	6.5	--	4.2
JUL							
26...	1312	.1	330	9.1	20.5	54	8.8
26...	1313	1.6	320	9.2	20.0	--	8.5
26...	1314	3.3	320	9.1	20.0	--	8.5
26...	1315	9.9	350	8.7	16.0	--	5.2
26...	1316	16	230	7.2	11.5	--	1.0
26...	1317	23	240	7.0	8.0	--	.6
26...	1318	30	220	7.0	8.0	--	.4
26...	1319	36	210	7.1	8.0	--	.0
26...	1320	43	--	--	8.0	--	.0
AUG							
16...	0845	.1	270	8.6	19.0	36	7.2
16...	0846	1.7	270	8.9	18.5	--	7.2
16...	0847	3.3	270	8.9	18.5	--	6.8
16...	0848	9.9	245	8.3	16.5	--	4.6
16...	0849	16	230	7.7	13.5	--	.0
16...	0850	2.3	215	7.3	11.0	--	.0
16...	0851	30	210	7.1	10.5	--	.0
16...	0852	36	210	7.1	10.5	--	.0
16...	0853	43	--	--	10.5	--	.0

PLATTE RIVER BASIN

06712850 - CHERRY CREEK ABOVE CHERRY CREEK LAKE, CO.*

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, HYDRO. + ORTHO TOTAL (MG/L AS P)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)
JUN											
20...	1000	16	19	5.1	.09	.81	.08	1660	2	4	0

DATE	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)
JUN										
20...	4	1250	26	236	.0	0	11	0	1	5.0

PLATTE RIVER BASIN

06712990 - CHERRY CREEK LAKE NEAR DENVER, CO.*

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)
JAN						
10...	1025	.0	800	8.7	.0	10.8
10...	1027	3.0	800	8.7	2.0	10.0
10...	1028	9.0	800	8.7	2.0	9.8
10...	1029	16	800	8.7	2.5	9.0
10...	1030	22	800	8.6	2.5	2.0
JUN						
20...	1230	.0	800	8.3	19.0	6.8
20...	1231	1.7	775	8.3	19.0	6.7
20...	1232	3.0	800	8.3	17.5	6.0
20...	1233	9.0	800	8.2	17.0	6.1
20...	1234	16	850	8.1	17.0	5.8
20...	1235	22	800	8.1	16.0	4.5
20...	1236	29	--	--	16.0	3.0
JUL						
26...	0938	.0	800	8.3	21.0	6.8
26...	0939	1.7	725	8.4	20.5	6.7
26...	0940	3.0	725	8.4	20.5	6.5
26...	0941	9.0	750	8.1	19.5	4.5
26...	0942	16	750	8.0	19.0	3.4
26...	0943	22	750	8.0	19.0	3.2
26...	0944	29	--	--	19.0	.2
AUG						
15...	0945	.0	760	8.2	19.5	5.2
15...	0946	1.7	760	8.2	19.5	5.2
15...	0947	3.0	760	8.2	19.5	5.0
15...	0948	9.0	760	8.1	19.5	4.6
15...	0949	16	750	8.1	19.5	4.4
15...	0950	22	750	8.1	19.0	3.8
15...	0951	29	--	--	19.0	2.8

DATE	TIME	SAMPLING DEPTH (FT)	TRANSPARENCY (SECCHI DISK) (IN)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, HYDRO. + ORTHO TOTAL (MG/L AS P)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)
JAN												
10...	1025	.0	28	33	23	.02	.00	1.4	.02	350	0	0
JUN												
20...	1230	.0	25	33	19	.02	.00	1.6	.05	1380	2	--
JUL												
26...	0938	.0	42	29	24	.00	.00	1.0	.03	2000	2	--
AUG												
15...	0945	.0	17	29	20	.01	--	1.2	.06	--	--	--

DATE	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN												
10...	3	0	7	240	20	28	.5	10	1	0	15	12
JUN												
20...	3	0	7	1250	10	80	.3	0	0	0	39	12
JUL												
26...	3	0	6	1400	40	125	.4	13	1	0	35	11
AUG												
15...	--	--	--	--	--	--	.8	--	--	--	--	--

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

PLATTE RIVER BASIN

393715105374801 CHICAGO CREEK, TRIBUTARY TO CLEAR CREEK DRAINAGE

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
JUN												
14...	1200	10	36	7.2	5.5	14	3	4.4	.7	.7	.1	.8
21...	1530	7.2	38	6.9	10.0	10	5	2.9	.6	1.7	.2	.7
28...	1500	8.0	39	6.9	10.5	14	6	4.6	.5	.9	.1	.7
AUG												
14...	1530	4.1	34	--	12.0	13	10	4.5	.5	.8	.1	.7

DATE	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
JUN												
14...	11	.0	.6	.2	4.5	19	.52	.18	.010	20	0	3.3
21...	5	4.9	.5	.1	9.2	24	.47	.00	.010	40	<1	6.1
28...	8	5.7	.6	.2	4.9	23	.50	.11	.020	50	4	2.1
AUG												
14...	3	11	.4	.2	4.3	25	.28	.18	.000	50	<1	2.5

393824105365701 CHICAGO CREEK, TRIBUTARY TO CLEAR CREEK DRAINAGE

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
JUN												
14...	1430	9.8	50	7.0	5.5	17	8	5.4	.8	1.1	.1	.9
21...	1815	11	46	7.0	10.0	16	9	5.2	.7	1.1	.1	1.0
28...	1230	13	43	6.9	9.0	15	3	4.9	.6	1.1	.1	.8
AUG												
15...	1500	17	50	--	12.0	21	4	6.3	1.3	2.2	.2	.9

DATE	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
JUN												
14...	9	12	1.1	.2	5.1	33	.88	.23	.000	60	0	4.7
21...	7	8.2	.8	.3	6.0	28	.88	.19	.010	60	2	3.6
28...	12	7.4	.5	.2	5.9	30	1.11	.19	.010	50	<1	3.2
AUG												
15...	17	15	.8	.3	11	48	2.32	.07	.000	140	7	3.4

393843105365101 CHICAGO CREEK, TRIBUTARY TO CLEAR CREEK DRAINAGE

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
JUN												
15...	1645	17	49	6.9	6.5	18	11	5.9	.9	.9	.1	1.1
22...	1130	23	46	7.0	7.0	16	6	5.4	.7	1.1	.1	1.0
28...	1100	17	49	6.9	8.0	15	12	5.2	.6	1.3	.1	.8
AUG												
15...	1250	4.9	43	--	10.5	17	10	5.7	.7	1.5	.2	.8

DATE	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
JUN												
15...	7	12	.9	.2	5.2	32	1.47	.23	.000	90	10	3.6
22...	10	8.3	1.0	.2	5.9	31	1.95	.22	.010	90	9	3.4
28...	3	10	.8	.2	6.2	28	1.36	.20	.000	110	10	4.9
AUG												
15...	7	14	.5	.2	6.3	35	.47	.22	.000	180	20	3.0

393949105380401 CHICAGO CREEK, TRIBUTARY TO CLEAR CREEK DRAINAGE

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
JUN												
15...	1745	8.4	25	7.0	3.5	7	4	2.3	.4	1.1	.2	.7
21...	1045	5.9	28	6.8	2.5	14	2	4.6	.6	.8	.1	.8
29...	1015	8.6	28	6.9	5.0	9	2	2.7	.6	1.5	.2	.5

DATE	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
JUN												
15...	3	10	1.2	.1	6.5	24	.54	.01	.010	20	0	7.8
21...	12	4.0	.5	.2	5.0	24	.39	.11	.000	50	4	2.0
29...	7	6.1	.6	.1	9.3	26	.61	.00	.010	30	<1	4.8

PLATTE RIVER BASIN

394259105341401 CHICAGO CREEK, TRIBUTARY TO CLEAR CREEK DRAINAGE

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)
JUN												
15...	1845	108	50	7.0	9.5	19	12	5.3	1.3	2.1	.2	.9
22...	1015	87	49	7.2	6.5	17	10	5.0	1.1	1.9	.2	1.0
27...	--	58	50	7.0	12.0	17	3	5.0	1.1	2.1	.2	.8
AUG												
15...	1500	17	56	--	12.0	21	4	6.3	1.3	2.2	.2	.9

DATE	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER DAY)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	PHOSPHORUS, DISSOLVED (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
JUN												
15...	7	11	.9	.2	8.8	35	10.2	.11	.000	130	10	7.0
22...	7	7.2	.9	.2	9.9	32	7.59	.07	.010	90	6	4.0
27...	14	7.2	.8	.2	10	36	5.72	.03	.010	90	5	3.8
AUG												
15...	17	15	.8	.3	11	48	2.32	.07	.000	140	7	3.4

ARKANSAS RIVER BASIN

384248105105201 - CRIPPLE CREEK BELOW CRIPPLE CREEK, CO

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)
NOV								
02...	1200	.25	220	7.1	9.5	.80	6.8	>7.9
28...	1230	1.1	350	7.2	.5	2.0	9.2	19
JAN								
02...	1215	.68	130	6.7	.5	3.3	10.4	6.0
31...	1445	.99	100	6.4	1.0	1.0	--	7.6
FEB								
23...	1045	2.4	220	7.0	.5	3.0	9.4	9.0
MAY								
02...	1215	3.6	440	7.3	6.0	--	8.9	<1.0
31...	1300	.49	460	6.9	13.5	--	7.0	49
JUL								
12...	1145	E.30	420	9.3	20.0	--	8.8	7.5
AUG								
07...	1310	.93	440	7.4	21.0	--	6.9	2.9
23...	1155	.80	305	7.1	17.5	--	6.4	4.0
SEP								
12...	1440	.74	400	7.0	17.5	--	6.4	8.4

DATE	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
NOV							
02...	100	35	8.1	18	1.5	1.3	.480
28...	--	41	8.4	16	1.5	2.3	.000
JAN							
02...	1500	32	5.3	5	.60	1.8	.360
31...	2700	18	5.5	10	.72	2.7	.650
FEB							
23...	1400	45	7.9	0	.99	1.8	.250
MAY							
02...	1800	--	--	29	1.5	.88	.090
31...	260000	--	--	1390	.66	1.0	3.70
JUL							
12...	4800	--	--	3	.29	1.7	.370
AUG							
07...	K8	--	--	7	1.3	.22	.070
23...	380	--	--	14	.74	1.5	.120
SEP							
12...	K80	--	--	30	1.2	.86	.010

DATE	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, HEXAVALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
NOV									
02...	0	0	0	7	1200	0	960	.0	30
JAN									
31...	0	10	0	13	1500	6	690	.0	40
MAY									
02...	3	0	0	41	2300	16	4300	.4	400
AUG									
07...	0	0	0	3	660	0	2200	.0	40

E ESTIMATED.

K BASED ON NON-IDEAL COLONY COUNT.

ARKANSAS RIVER BASIN

383946105131301 - CARLTON TUNNEL BELOW VICTOR CO

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)
NOV												
02...	1045	--	235	8.2	22.0	1.7	6.9	.8	K2	1300	35	10
MAR												
07...	1415	--	2020	--	--	--	--	--	K8	--	--	--
MAY												
02...	1330	1.3	2300	7.9	20.0	--	6.7	--	--	--	--	6
AUG												
07...	1415	1.0	2020	7.8	23.0	--	6.4	.2	K8	--	--	19

DATE	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
NOV												
02...	.05	.01	.000	0	20	0	1	1200	0	960	.0	40
MAR												
07...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
02...	.03	.09	.000	0	0	0	2	1200	20	750	.4	60
AUG												
07...	.03	.07	.010	0	0	0	2	900	3	790	.2	60

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
NOV									
02...	0	20	0	1	1200	0	960	.0	40
MAY									
02...	0	8	0	2	1200	20	750	.4	60
AUG									
07...	0	0	0	2	900	3	790	.2	60

K BASED ON NON-IDEAL COLONY COUNT.

ARKANSAS RIVER BASIN

384205105084201 - WILSON CR AL VICTOR CO

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
MAY											
02...	1040	1.9	570	7.5	5.0	8.8	.0	60	736	1.0	.47
31...	1530	5.9	480	6.8	11.5	7.4	23	2000	292	.67	.45
JUL											
12...	1300	E.30	530	7.6	20.0	--	24	120000	25	.64	2.3
AUG											
07...	1205	1.9	425	6.8	18.5	2.9	7.5	15000	16	.56	2.9
23...	1053	.49	495	7.2	13.0	5.8	5.0	4300	22	.96	1.4
SEP											
12...	1225	.43	550	6.9	15.5	5.4	6.0	500	--	1.1	1.5

DATE	PHOS-PHORUS, TOTAL (MG/L AS P)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
MAY										
02...	1.20	0	10	0	30	24000	130	3200	.8	460
31...	.710	--	--	--	--	--	--	--	--	--
JUL										
12...	.820	--	--	--	--	--	--	--	--	--
AUG										
07...	.850	0	10	0	16	700	6	290	.2	30
23...	.300	--	--	--	--	--	--	--	--	--
SEP										
12...	--	--	--	--	--	--	--	--	--	--

E ESTIMATED.

ARKANSAS RIVER BASIN

383919105123901 - WILSON CREEK AT MOUTH, CO

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
MAY											
02...	1415	7.3	625	7.9	8.0	9.2	.2	32	0	.19	.03
31...	1100	2.8	600	7.7	10.0	8.6	1.2	150	9	--	--
JUL											
12...	1430	E.30	768	8.6	20.0	--	.5	K1	0	.01	.08
AUG											
07...	1510	.81	655	7.9	25.0	6.6	.1	K1	4	.01	.01
23...	1305	.33	695	8.2	18.5	7.5	3.2	40	4	.07	.03
SEP											
12...	1543	.21	700	8.1	16.5	7.3	4.8	20	18	.02	.13

DATE	PHOS-PHORUS, TOTAL (MG/L AS P)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
MAY										
02...	.020	0	0	0	12	70	24	0	.3	30
31...	--	--	--	--	--	--	--	--	--	--
JUL										
12...	.010	--	--	--	--	--	--	--	--	--
AUG										
07...	.020	0	0	0	1	60	2	20	.2	10
23...	.070	--	--	--	--	--	--	--	--	--
SEP										
12...	.030	--	--	--	--	--	--	--	--	--

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
MAY									
02...	0	0	0	12	70	24	0	.3	30
AUG									
07...	0	0	0	1	60	2	20	.2	10

E ESTIMATED.

K BASED ON NON-IDEAL COLONY COUNT.

ARKANSAS RIVER BASIN

07103747 - MONUMENT CREEK AT PALMER LAKE, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
NOV 01...	0700	0	0	0	2	150	5	30	.0	10
JAN 25...	0815	0	0	0	0	40	2	40	.0	10
APR 26...	1630	1	0	0	0	520	8	20	.4	10
AUG 02...	1400	0	0	0	1	480	2	80	.0	10

ARKANSAS RIVER BASIN

07103747 - MONUMENT CREEK AT PALMER LAKE, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)
NOV							
01...	0700	.39	170	9.0	5.5	.20	8.8
29...	1515	.37	250	6.9	3.0	.00	10.3
DEC							
28...	0715	.33	215	6.5	.5	3.0	12.0
JAN							
25...	0815	.33	230	7.5	.0	.40	10.4
FEB							
28...	1605	.35	160	6.9	1.5	4.0	10.8
MAR							
20...	0845	.41	225	7.0	3.0	1.9	10.6
APR							
26...	1630	21	85	7.3	8.0	--	9.0
MAY							
25...	0930	6.6	105	6.9	12.5	--	8.4
JUL							
02...	1115	2.4	160	6.6	19.5	--	9.8
AUG							
02...	1400	.58	--	7.1	25.0	--	6.4
22...	0855	.66	180	7.2	13.0	--	7.5
SEP							
14...	1020	.60	210	7.2	14.0	--	7.5

DATE	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	CHLORIDE, DISSOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
NOV							
01...	.4	70	5.7	6	.01	.01	.000
29...	.2	21	6.4	13	.01	.01	.060
DEC							
28...	.2	120	5.7	2	.09	.00	.000
JAN							
25...	.2	K3	5.5	7	.01	.02	.010
FEB							
28...	.8	31	5.7	7	.03	.02	.020
MAR							
20...	.5	30	6.6	0	.08	.01	.010
APR							
26...	2.0	550	--	8	.14	.05	.030
MAY							
25...	.7	150	--	7	.10	.02	.010
JUL							
02...	.4	64	--	4	.07	.05	.050
AUG							
02...	.8	K8	--	8	.03	.01	.020
22...	.6	1700	--	5	.01	.00	.020
SEP							
14...	.5	K83	--	3	.02	.00	.190

K BASED ON NON-IDEAL COLONY COUNT.

ARKANSAS RIVER BASIN

07105500 - FOUNTAIN CREEK AT COLORADO SPRINGS, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)
NOV							
01...	1200	11	920	7.8	12.5	1.8	8.8
29...	1245	18	1100	8.0	6.0	50	9.8
DEC							
28...	1115	11	920	7.2	4.0	20	11.5
JAN							
25...	1415	3.7	840	7.9	1.5	22	12.2
FEB							
27...	1105	17	760	8.6	7.0	200	9.8
MAR							
21...	1230	95	400	7.3	4.0	370	--
APR							
30...	1530	57	360	7.5	13.0	--	8.1
MAY							
30...	1330	150	475	7.1	12.0	--	8.0
JUL							
03...	1300	33	670	7.8	28.0	--	6.7
AUG							
03...	1045	17	775	7.8	23.0	--	7.4
22...	1200	21	700	7.9	23.5	--	6.3
SEP							
14...	1410	7.7	550	7.1	14.0	--	7.4

DATE	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
NOV							
01...	6.0	56	240	22	10	1.4	.01
29...	22	220	280	28	106	1.2	.03
DEC							
28...	4.0	56	240	26	50	2.1	.01
JAN							
25...	1.5	160	240	25	61	2.1	.08
FEB							
27...	6.0	520	160	29	310	2.5	.39
MAR							
21...	12	K1	97	31	2100	1.5	.11
APR							
30...	6.0	720	--	--	31	.83	.04
MAY							
30...	6.0	--	--	--	1070	.77	.04
JUL							
03...	.6	K10	--	--	101	1.6	.02
AUG							
03...	.6	400	--	--	101	1.4	.01
22...	1.4	1600	--	--	346	1.3	.03
SEP							
14...	4.8	K2400	--	--	100	.91	.01

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
NOV									
01...	0	30	0	3	530	0	210	.0	40
JAN									
25...	0	0	0	5	1900	10	260	.0	60
APR									
30...	0	20	0	4	5400	25	200	.4	80
AUG									
03...	0	0	0	5	2500	0	290	.0	--

K BASED ON NON-IDEAL COLONY COUNT.

ARKANSAS RIVER BASIN

384811104474301 - FOUNTAIN CR BL COLO SPGS CO

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
MAY											
01...	1545	77	590	7.5	13.5	8.1	2.0	--	122	2.2	3.9
30...	1230	145	750	7.3	11.0	8.6	22	--	301	1.8	1.5
JUL											
09...	1300	79	690	7.4	23.0	6.8	23	60	--	--	--
AUG											
03...	1315	50	650	7.1	23.0	6.1	13	410	96	2.8	4.7
22...	1235	59	775	7.3	20.5	6.4	12	440	192	5.2	3.9
SEP											
17...	1415	45	700	7.7	22.0	6.3	22	1500	19	4.8	5.1

DATE	PHOS-PHORUS, TOTAL (MG/L AS P)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
MAY										
01...	2.50	1	10	0	16	3200	28	190	.4	100
30...	1.40	--	--	--	--	--	--	--	--	--
JUL										
09...	--	--	--	--	--	--	--	--	--	--
AUG										
03...	5.10	1	20	0	11	2000	16	260	.0	70
22...	4.40	--	--	--	--	--	--	--	--	--
SEP										
17...	4.20	--	--	--	--	--	--	--	--	--

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
MAY									
01...	1	10	0	16	3200	28	190	.4	100
AUG									
03...	1	20	0	11	2000	16	260	.0	70

ARKANSAS RIVER BASIN

384620104461501 - FOUNTAIN CREEK AT STRATMOOR CO

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
NOV								
01...	1300	62	880	7.3	14.0	34	6.8	57
29...	1045	21	1020	7.5	6.5	5.0	8.9	32
DEC								
28...	1300	8.2	1320	7.3	8.0	16	9.0	15
JAN								
31...	1200	--	720	7.5	3.5	23	--	28
FEB								
28...	1005	54	675	8.8	10.5	57	8.5	34
MAR								
28...	1455	91	965	7.5	14.5	--	7.2	17
MAY								
01...	1735	107	590	7.6	13.5	--	8.0	5.5
30...	1015	143	480	7.4	10.0	--	8.6	21
JUL								
09...	1400	74	740	7.5	26.0	--	5.0	18
AUG								
03...	1145	60	950	7.4	25.0	--	5.5	14
22...	1350	59	800	7.3	23.0	--	5.5	18
SEP								
17...	1623	42	760	7.9	23.0	--	5.4	17

DATE	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
NOV							
01...	400	160	54	180	3.6	2.1	7.50
29...	400	240	44	61	4.8	2.3	.000
DEC							
28...	28	290	44	61	3.0	.99	1.50
JAN							
31...	28	280	45	112	3.9	4.8	3.40
FEB							
28...	50	170	41	109	4.2	5.5	3.40
MAR							
28...	<1	--	--	--	--	--	--
MAY							
01...	230	--	--	198	2.5	3.5	2.30
30...	2700	--	--	968	1.2	.67	1.00
JUL							
09...	20	--	--	148	6.4	1.8	1.30
AUG							
03...	420	--	--	168	3.0	1.9	3.00
22...	500	--	--	216	6.1	2.9	4.60
SEP							
17...	240	--	--	42	5.6	2.6	.080

ARKANSAS RIVER BASIN

384620104461501 - FOUNTAIN CREEK AT STRATMOOR, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUSPENDED TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, HEXAVALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
NOV									
01...	1300	--	--	--	--	4	140	0	78
JAN									
31...	1200	--	--	--	--	2	30	0	20
MAY									
01...	1735	--	--	--	--	1	10	0	19
AUG									
03...	1145	0	5	5	0	1	10	0	9

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
NOV									
01...	19000	99	1000	--	.4	--	--	--	340
JAN									
31...	1100	10	240	--	.1	--	--	--	80
MAY									
01...	4800	21	260	--	.3	--	--	--	100
AUG									
03...	3500	14	450	290	.8	17	4	0	60

ARKANSAS RIVER BASIN

385046104494201 - SC14-66-7CBA MONUMENT CREEK AT MONUMENT VALLEY PARK, CO

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUSPENDED TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, HEXAVALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
NOV									
01...	1000	--	--	--	--	0	0	0	2
JAN									
25...	1215	--	--	--	--	0	10	0	7
APR									
30...	1420	--	--	--	--	0	10	0	7
AUG									
02...	1530	0	2	2	0	0	0	0	6

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
NOV									
01...	730	0	50	--	.0	--	--	--	20
JAN									
25...	1000	7	60	--	.0	--	--	--	20
APR									
30...	6700	23	250	--	.4	--	--	--	80
AUG									
02...	4100	10	90	30	.0	4	4	0	30

ARKANSAS RIVER BASIN

385046104494201 - SC14-66-7CBA MONUMENT CREEK AT MONUMENT VALLEY PARK, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)
NOV								
01...	1000	5.1	848	7.6	8.0	2.3	9.7	1.2
29...	1340	10	560	7.4	2.0	64	9.6	2.9
DEC								
28...	0930	7.0	780	6.9	.5	15	10.4	2.1
JAN								
25...	1215	6.2	660	8.0	.0	11	10.0	1.2
FEB								
28...	1225	9.1	600	7.1	10.0	130	9.3	4.3
MAR								
20...	1400	32	440	7.4	1.0	560	11.2	6.5
APR								
30...	1420	44	300	7.8	15.0	--	7.8	2.6
MAY								
29...	1600	50	350	7.6	20.0	--	8.5	10
JUL								
06...	1200	17	560	8.2	25.5	--	6.6	2.0
AUG								
02...	1530	8.5	650	--	27.5	--	6.0	1.0
22...	1000	13	645	7.8	17.0	--	7.1	5.0
SEP								
14...	1300	16	500	7.8	12.0	--	7.7	4.8

DATE	COLIFORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
NOV							
01...	520	210	28	20	1.4	.01	.080
29...	1200	160	21	434	1.3	.08	.700
DEC							
28...	200	170	20	54	2.0	.01	.080
JAN							
25...	15000	170	19	58	2.0	.18	.120
FEB							
28...	2700	150	21	329	2.4	.66	.260
MAR							
20...	500	67	36	2500	1.5	.15	.630
APR							
30...	580	--	--	319	.99	.11	.430
MAY							
29...	47000	--	--	3920	.89	.08	1.20
JUL							
06...	570	--	--	444	1.0	.02	.220
AUG							
02...	500	--	--	176	1.4	.01	.160
22...	7600	--	--	724	1.5	.03	.370
SEP							
14...	5100	--	--	398	1.1	.03	.120

06614800 - MICHIGAN RIVER NEAR CAMERON PASS, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
OCT		
06...	7.0	52
26...	3.5	--
DEC		
12...	1.0	60
JAN		
03...	1.0	55
MAR		
01...	1.5	--
MAY		
08...	1.5	55
JUN		
07...	.5	--
14...	.5	23
JUL		
20...	5.0	29
25...	12.0	26
SEP		
06...	4.5	47

06616000 - NORTH FORK MICHIGAN RIVER NEAR GOULD, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
OCT		
06...	5.5	110
NOV		
03...	2.0	130
DEC		
12...	2.0	160
JAN		
19...	.5	150
FEB		
22...	.0	150
MAR		
21...	.5	160
APR		
24...	1.5	130
MAY		
25...	6.0	70
JUL		
03...	15.0	80
19...	17.0	90
AUG		
30...	18.0	120

06657500 - LARAMIE RIVER NEAR GLENDEVEY, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
OCT		
06...	8.5	85
NOV		
22...	.5	115
DEC		
14...	.5	120
JAN		
19...	.5	80
FEB		
22...	1.0	110
MAR		
22...	.5	120
APR		
25...	3.0	80
MAY		
21...	9.0	50
25...	7.5	38
JUN		
15...	9.0	29
JUL		
03...	11.5	40
SEP		
06...	15.0	140

06693980 - MIDDLE FORK SOUTH PLATTE RIVER AB FAIRPLAY, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
OCT		
16...	10.0	280
NOV		
07...	--	320
DEC		
20...	.0	240
JAN		
25...	.0	250
FEB		
21...	.5	340
MAR		
21...	.5	--
APR		
17...	1.5	280
MAY		
15...	5.0	290
JUN		
13...	12.0	170
27...	7.0	120
JUL		
18...	7.5	150
AUG		
20...	10.5	110
29...	8.0	280

06694100 - MIDDLE FORK SOUTH PLATTE RIVER NR HARTSEL, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
OCT		
17...	4.0	400
NOV		
08...	--	370
JAN		
04...	.0	370
FEB		
02...	.0	540
23...	.0	580
APR		
05...	2.5	480
18...	9.0	420
MAY		
15...	16.0	495
JUN		
14...	14.0	290
27...	18.0	300
JUL		
19...	11.0	300
AUG		
21...	14.5	240
29...	18.5	270

06694400 - SOUTH FORK SOUTH PLATTE RIVER AB FAIRPLAY, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
OCT		
17...	7.0	360
NOV		
08...	--	370
DEC		
28...	.5	320
JAN		
25...	.0	340
FEB		
22...	.5	350
APR		
05...	3.0	350
18...	9.0	340
MAY		
16...	11.0	335
JUN		
14...	6.5	180
JUL		
18...	11.5	210
AUG		
21...	9.5	250

SPECIFIC CONDUCTANCE AND TEMPERATURE DATA AT SELECTED SITES

06694700 - FOURMILE CREEK NEAR FAIRPLAY, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
OCT		
17...	6.0	270
NOV		
08...	--	270
DEC		
28...	.0	280
JAN		
25...	.0	280
FEB		
22...	.0	280
MAR		
21...	.0	290
APR		
18...	2.5	280
MAY		
16...	9.5	280
JUN		
13...	11.5	210
25...	8.0	160
JUL		
18...	10.0	180
AUG		
20...	11.0	200

06695000 - S PLATTE R AB 11-MILE CANYON RE, NR HARTSEL, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)
OCT	
03...	14.0
17...	10.0
31...	9.0
NOV	
21...	.5
JAN	
03...	.0
24...	.0
FEB	
14...	.5
MAR	
06...	.5
27...	.5
APR	
09...	4.5
23...	12.0
MAY	
09...	7.0
21...	16.5
JUN	
04...	19.5
18...	16.0
JUL	
16...	18.5
30...	18.5
AUG	
13...	19.5
27...	17.5
SEP	
10...	20.5
24...	15.0

06696000 - SOUTH PLATTE RIVER NEAR LAKE GEORGE, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)
OCT	
03...	12.5
17...	11.0
31...	8.0
NOV	
21...	5.0
DEC	
12...	2.5
JAN	
03...	2.0
24...	2.5
FEB	
14...	4.5
MAR	
06...	4.0
27...	4.0
APR	
09...	4.0
23...	5.0
MAY	
09...	4.0
21...	6.5
JUN	
04...	8.0
18...	13.5
JUL	
02...	12.0
16...	13.0
30...	13.5
AUG	
13...	14.0
27...	15.0
SEP	
10...	15.5
24...	14.0

06696980 - TARRYALL CREEK AT UPPER STATION, NEAR COMO, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
OCT		
17...	3.5	190
NOV		
07...	--	200
DEC		
20...	.0	160
JAN		
24...	.0	180
FEB		
21...	.0	200
MAR		
20...	.0	200
APR		
17...	3.5	200
MAY		
02...	2.0	180
14...	9.0	<50
JUN		
12...	12.5	130
JUL		
17...	11.0	120
AUG		
22...	--	160
28...	8.5	130

06697450 - MICHIGAN CREEK ABOVE JEFFERSON, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
OCT		
10...	10.0	80
17...	5.0	--
NOV		
07...	1.0	120
DEC		
19...	.0	110
JAN		
24...	.0	140
FEB		
21...	.0	120
MAR		
20...	.0	150
APR		
17...	1.0	160
MAY		
02...	4.0	105
17...	6.0	100
JUN		
12...	13.0	100
JUL		
17...	10.5	70
AUG		
22...	12.0	90

06698000 - JEFFERSON CREEK NEAR JEFFERSON, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
OCT		
17...	6.5	70
NOV		
07...	.0	70
DEC		
19...	.0	90
JAN		
18...	.0	80
FEB		
20...	.0	100
APR		
17...	1.0	100
MAY		
02...	2.0	70
17...	11.5	64
JUN		
12...	7.0	70
JUL		
17...	9.0	<50
AUG		
22...	--	60

SPECIFIC CONDUCTANCE AND TEMPERATURE DATA AT SELECTED SITES

06700500 - GOOSE CREEK ABOVE CHEESMAN LAKE, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPERATURE (DEG C)
OCT	
03...	9.0
17...	6.0
31...	4.5
NOV	
21...	.5
DEC	
12...	.5
JAN	
03...	.0
24...	1.0
FEB	
24...	.5
MAR	
06...	.5
27...	1.0
APR	
09...	2.0
23...	4.5
MAY	
09...	3.0
21...	5.5
JUN	
04...	9.5
18...	12.0
JUL	
02...	13.0
16...	15.0
30...	13.5
AUG	
13...	14.5
27...	11.0
SEP	
10...	13.5
24...	11.5

06701500 - SOUTH PLATTE RIVER BELOW CHEESMAN LAKE, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPERATURE (DEG C)
OCT	
03...	14.0
17...	13.5
31...	11.0
NOV	
21...	8.0
DEC	
12...	5.0
JAN	
03...	3.0
24...	2.5
FEB	
14...	3.5
MAR	
06...	3.5
27...	4.0
APR	
09...	4.5
23...	7.0
MAY	
09...	5.0
21...	10.5
JUN	
04...	6.0
18...	17.5
JUL	
02...	19.0
16...	13.0
30...	7.0
AUG	
13...	7.0
27...	8.5
SEP	
10...	9.5
24...	10.0

06706000 - NF SOUTH PLATTE R BELOW GENEVA C, AT GRANT, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT		MAY	
04...	8.5	10...	4.0
18...	8.5	22...	10.5
NOV		JUN	
01...	9.0	05...	6.5
22...	6.0	JUL	
JAN		03...	11.0
04...	4.0	17...	9.5
FEB		31...	8.5
15...	4.0	AUG	
MAR		14...	9.0
07...	5.0	28...	10.5
28...	6.0	SEP	
APR		11...	9.0
10...	3.0	25...	7.0
24...	7.5		

06707000 - NF SOUTH PLATTE RIVER AT SOUTH PLATTE, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT		APR	
05...	6.5	13...	4.0
18...	9.0	25...	4.0
NOV		MAY	
02...	7.5	10...	3.5
14...	4.0	25...	13.0
30...	.0	JUN	
DEC		19...	8.5
14...	.5	JUL	
28...	.5	05...	15.0
JAN		19...	13.0
17...	.5	AUG	
FEB		28...	11.0
07...	.5	SEP	
MAR		25...	9.5
02...	.5		
14...	1.0		
29...	4.5		

06707500 - SOUTH PLATTE RIVER AT SOUTH PLATTE, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT		APR	
05...	6.5	25...	5.0
18...	9.5	MAY	
NOV		10...	4.0
02...	7.5	24...	8.0
30...	.0	JUN	
DEC		05...	12.5
14...	.0	19...	8.5
28...	.5	JUL	
JAN		05...	17.0
17...	.5	19...	14.5
FEB		AUG	
07...	.5	02...	12.0
MAR		15...	10.0
02...	.5	28...	11.5
14...	.5	SEP	
29...	5.5	25...	11.0
APR			
13...	5.0		

SPECIFIC CONDUCTANCE AND TEMPERATURE DATA AT SELECTED SITES

06709500 - PLUM CREEK NEAR LOUVIERS, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
OCT			APR		
03...	15.0	400	26...	15.0	320
20...	10.0	150	MAY		
DEC			02...	4.0	150
11...	2.0	340	16...	15.0	240
19...	1.0	300	JUN		
JAN			05...	15.0	160
04...	1.0	175	27...	10.0	140
17...	1.0	200	JUL		
FEB			27...	25.0	140
02...	1.0	125	AUG		
MAR			14...	10.0	180
13...	7.0	250	29...	15.0	120
29...	10.0	210	SEP		
APR			13...	20.0	180
04...	3.5	320			
13...	8.0	210			

06711500 - BEAR CREEK AT MOUTH, AT SHERIDAN, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT		MAY	
12...	12.0	02...	5.0
NOV		21...	12.5
16...	3.5	JUN	
30...	5.5	01...	11.0
DEC		14...	15.0
14...	1.5	26...	13.0
26...	2.0	JUL	
FEB		10...	15.0
08...	3.0	25...	20.0
28...	1.0	AUG	
MAR		07...	16.0
15...	12.0	23...	14.5
27...	11.0	SEP	
APR		05...	15.0
18...	7.0	19...	15.0

06712000 - CHERRY CREEK NEAR FRANKTOWN, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
OCT			APR		
03...	15.0	80	04...	6.5	200
20...	9.0	88	26...	15.5	325
NOV			MAY		
09...	9.0	180	16...	15.0	180
DEC			JUN		
11...	.0	310	05...	17.0	140
19...	1.0	160	27...	15.0	120
JAN			JUL		
04...	.0	120	27...	21.0	145
17...	.0	190	AUG		
FEB			14...	10.0	180
02...	.0	200	29...	15.0	120
MAR			SEP		
13...	8.0	180	13...	13.0	160
29...	10.0	210			

06714000 - SOUTH PLATTE RIVER AT DENVER, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPERATURE (DEG C)
OCT	
03...	19.5
17...	15.5
NOV	
06...	12.5
DEC	
12...	12.0
JAN	
03...	4.5
23...	6.0
FEB	
14...	9.0
26...	11.0
MAR	
14...	14.5
28...	11.0
APR	
13...	5.5
26...	12.0
MAY	
11...	7.5
22...	19.0
JUN	
06...	14.0
20...	17.0
JUL	
02...	16.0
17...	21.0
AUG	
01...	20.0
13...	17.5
29...	20.0
SEP	
12...	19.5
26...	17.5

06716500 - CLEAR CREEK NEAR LAWSON, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPERATURE (DEG C)
OCT	
10...	6.0
24...	5.0
NOV	
07...	4.5
17...	.0
DEC	
09...	.0
JAN	
05...	.5
24...	1.0
FEB	
15...	.5
MAR	
08...	3.0
21...	2.5
APR	
17...	5.0
MAY	
03...	3.0
15...	7.0
30...	2.0
JUN	
13...	9.0
27...	6.0
JUL	
12...	9.0
26...	12.0
AUG	
09...	14.0
21...	12.0
SEP	
03...	10.5
20...	9.0

06719505 - CLEAR CREEK AT GOLDEN, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPERATURE (DEG C)
OCT	
24...	5.0
NOV	
07...	4.5
17...	1.0
DEC	
11...	.5
JAN	
05...	.0
24...	1.0
FEB	
15...	.5
MAR	
08...	2.0
21...	3.5
APR	
17...	10.5
MAY	
03...	2.0
15...	12.0
29...	10.0
JUN	
13...	10.0
27...	7.0
JUL	
12...	10.0
26...	15.0
AUG	
09...	17.0
21...	10.0
SEP	
03...	13.5
20...	15.0

SPECIFIC CONDUCTANCE AND TEMPERATURE DATA AT SELECTED SITES

06720000 - CLEAR CREEK AT MOUTH, NEAR DERBY, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPERATURE (DEG C)
OCT	
03...	17.0
17...	13.5
NOV	
17...	3.5
28...	3.0
DEC	
12...	.5
JAN	
23...	.0
FEB	
14...	2.5
26...	4.5
MAR	
14...	13.5
28...	13.0
APR	
12...	8.5
26...	16.0
MAY	
11...	10.0
23...	16.5
29...	13.0
JUN	
06...	12.0
08...	10.0
21...	17.0
JUL	
02...	13.5
17...	19.0
AUG	
01...	23.0
20...	14.0
29...	24.0
SEP	
11...	20.0
27...	21.0

06720415 - GRANGE HALL CREEK AT NORTHGLENN, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (MICROMHOS)
OCT		
17...	8.5	1370
NOV		
20...	1.0	2170
DEC		
04...	--	2080
04...	--	1250
11...	.0	2570
12...	3.0	2170
12...	2.0	1570
FEB		
01...	.0	3390
01...	.0	3390
APR		
19...	15.5	2680
MAY		
02...	10.0	701
02...	10.0	566
02...	10.0	490
02...	10.0	386
02...	10.0	255
02...	9.5	181
02...	12.0	192
02...	9.0	174
MAY		
02...	9.0	173
02...	7.5	217
02...	5.5	220
08...	6.0	214
20...	12.0	2090
20...	12.0	1800
20...	11.5	1280
20...	12.0	437
20...	11.5	258
20...	11.0	200
20...	11.0	218
20...	11.0	382
20...	11.5	612
20...	12.5	806
JUN		
07...	16.0	1500
07...	13.0	312
07...	13.0	204
07...	13.0	234
07...	12.0	246
08...	12.0	482
08...	14.0	650
JUN		
08...	14.0	465
09...	12.0	482
JUL		
16...	20.0	1470
AUG		
14...	16.5	931
14...	17.0	863
14...	17.0	326
AUG		
14...	17.0	223
14...	17.0	443
26...	18.5	161
26...	18.5	176
26...	18.5	223
26...	--	659
27...	18.0	635

SPECIFIC CONDUCTANCE AND TEMPERATURE DATA AT SELECTED SITES

06720500 - SOUTH PLATTE RIVER AT HENDERSON, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPERATURE (DEG C)
OCT	
03...	20.5
17...	19.0
NOV	
06...	14.5
28...	11.0
DEC	
12...	9.0
JAN	
23...	9.0
FEB	
14...	11.0
26...	12.0
MAR	
28...	16.0
APR	
12...	9.0
26...	17.0
MAY	
11...	11.5
23...	14.0
JUN	
06...	17.0
08...	12.0
20...	17.0
JUL	
02...	16.5
17...	20.5
AUG	
01...	21.0
16...	23.0
29...	24.0
SEP	
11...	21.0
27...	21.0

06723400 - SOUTH ST. VRAIN CREEK ABOVE LYONS, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (MICROMHOS)
OCT		
12...	14.5	55
NOV		
29...	1.0	75
DEC		
19...	.0	70
JAN		
24...	.0	65
FEB		
21...	1.0	70
MAR		
27...	10.0	90
APR		
18...	6.0	75
MAY		
09...	4.0	70
18...	12.0	60
JUN		
06...	14.0	38
JUL		
12...	13.0	26
AUG		
22...	14.0	41
SEP		
18...	16.0	52

06725500 - MIDDLE BOULDER CREEK AT NEDERLAND, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPERATURE (DEG C)
OCT	
12...	7.5
26...	2.5
NOV	
08...	4.5
22...	1.0
DEC	
19...	1.0
JAN	
10...	.5
31...	.5
FEB	
21...	.5
MAR	
07...	.5
20...	1.5
APR	
03...	1.0
17...	2.0
MAY	
03...	1.5
14...	7.5
29...	7.0
JUN	
12...	6.0
26...	6.0
JUL	
10...	11.0
23...	10.0
AUG	
07...	12.0
20...	8.5
SEP	
05...	13.0
19...	11.0

06727000 - BOULDER CREEK NEAR ORODELL, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT		MAY	
12...	9.0	03...	3.0
26...	3.5	14...	7.5
NOV		29...	9.5
08...	4.0	JUN	
DEC		12...	10.0
19...	1.0	26...	12.0
JAN		JUL	
10...	.5	10...	13.5
31...	.5	23...	14.0
FEB		AUG	
21...	.5	07...	15.0
MAR		20...	12.0
07...	1.5	SEP	
20...	2.5	07...	17.0
APR		19...	13.5
03...	.5		
17...	1.0		

06729300 - SOUTH BOULDER CREEK AT PINECLIFFE, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (MICROMHOS)	DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (MICROMHOS)
JUN			AUG		
06...	8.5	<50	06...	14.0	48
18...	9.5	--	SEP		
JUL			07...	11.0	52
05...	8.0	<50			

06729500 - SOUTH BOULDER CREEK NEAR ELDORADO SPRINGS, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT		APR	
13...	9.5	04...	3.0
27...	9.0	MAY	
NOV		04...	8.0
09...	10.0	16...	7.0
21...	4.5	JUN	
DEC		27...	9.0
20...	.5	JUL	
JAN		11...	10.0
11...	.5	24...	12.0
FEB		AUG	
01...	.5	08...	14.0
22...	1.0	21...	13.0
MAR		SEP	
06...	1.5	06...	18.0
22...	3.0	18...	17.0

06733000 - BIG THOMPSON RIVER AT ESTES PARK, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT		FEB	
05...	9.0	01...	.5
19...	6.0	07...	1.0
NOV		14...	1.0
02...	6.0	21...	.5
16...	.5	27...	.5
DEC		MAR	
07...	1.0	07...	1.5
21...	1.0	14...	.5
28...	2.0	21...	1.0
JAN		28...	5.0
04...	1.0	AUG	
11...	1.0	02...	12.0
18...	2.0		
25...	2.0		

06735500 - BIG THOMPSON RIVER NEAR ESTES PARK, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT		MAR	
05...	12.0	21...	2.5
19...	11.0	APR	
NOV		11...	4.5
02...	9.0	AUG	
16...	5.0	02...	16.0
DEC		15...	15.0
07...	2.0		

06738000 - BIG THOMPSON R AT MOUTH OF CANYON, NR DRAKE, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT		FEB	
02...	13.0	28...	2.5
19...	6.0	MAR	
NOV		07...	3.0
07...	1.5	24...	9.0
28...	2.0	APR	
DEC		04...	.5
13...	1.0	18...	12.0
JAN		MAY	
03...	.5	09...	4.0
11...	1.5	16...	13.0
17...	1.0	JUN	
FEB		27...	13.0
01...	1.0	JUL	
08...	2.0	10...	17.0
14...	1.5	24...	18.0
21...	1.0		

06746110 - JOE WRIGHT CREEK BELOW JOE WRIGHT RESERVOIR, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
OCT			MAY		
17...	3.5	55	09...	.5	75
NOV			JUN		
22...	.0	65	04...	3.0	40
JAN			14...	5.0	--
16...	.0	--	21...	5.0	30
MAR			SEP		
01...	.0	--	05...	13.0	60

06748600 - SOUTH FORK CACHE LA POUDRE RIVER NR RUSTIC, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
OCT			APR		
17...	7.0	45	23...	7.0	60
NOV			MAY		
22...	.0	48	21...	7.5	50
JAN			JUN		
04...	.0	45	19...	12.5	25
FEB			JUL		
23...	.0	55	24...	--	17
MAR			SEP		
23...	.5	55	05...	13.5	27
APR					
20...	1.0	--			

06760000 - SOUTH PLATTE RIVER AT BALZAC, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT		FEB	
04...	17.0	01...	2.0
13...	16.0	15...	2.0
DEC		MAR	
01...	9.0	01...	7.0
18...	3.0	AUG	
JAN		17...	23.0
02...	1.0		
15...	2.0		

06826500 - SOUTH FORK REPUBLICAN RIVER NEAR HALE, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
OCT			MAY		
25...	9.5	510	15...	27.0	625
NOV			JUN		
29...	6.0	520	19...	20.0	500
FEB			JUL		
06...	5.0	490	31...	--	500
MAR					
20...	9.0	490			

SPECIFIC CONDUCTANCE AND TEMPERATURE DATA AT SELECTED SITES

07081200 - ARKANSAS RIVER NEAR LEADVILLE, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
OCT		
17...	3.0	360
NOV		
14...	.5	360
DEC		
13...	.0	340
JAN		
09...	.0	305
FEB		
14...	.0	290
MAR		
14...	1.0	400
APR		
19...	1.5	250

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
MAY		
15...	5.0	100
JUN		
13...	11.0	95
14...	7.5	85
JUL		
11...	12.0	105
AUG		
07...	16.0	100
SEP		
12...	6.5	275

07084500 - LAKE CREEK ABOVE TWIN LAKES RESERVOIR, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)
OCT	
12...	7.5
NOV	
28...	.0
DEC	
13...	.0
28...	.0
JAN	
11...	.0
24...	.0
FEB	
07...	.0
22...	.0
MAR	
07...	1.0
28...	6.0
APR	
11...	2.0

DATE	TEMPER-ATURE (DEG C)
APR	
26...	7.0
MAY	
14...	5.0
JUN	
06...	5.0
21...	7.0
JUL	
04...	5.0
18...	9.0
AUG	
02...	8.0
30...	12.0
SEP	
13...	6.0
27...	6.5

07086500 - CLEAR CREEK ABOVE CLEAR CREEK RESERVOIR, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)
NOV	
09...	3.5
28...	.0
DEC	
13...	.0
28...	.0
JAN	
11...	.0
24...	.0
FEB	
07...	.0
22...	.0
MAR	
07...	2.0
28...	2.0
APR	
11...	3.0
26...	8.5

DATE	TEMPER-ATURE (DEG C)
MAY	
14...	7.0
24...	7.5
JUN	
07...	5.0
21...	12.0
JUL	
04...	6.5
19...	16.5
AUG	
02...	10.0
30...	12.0
SEP	
13...	9.0
27...	8.0

07087200 - ARKANSAS RIVER AT BUENA VISTA, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
OCT			MAY		
18...	7.5	320	14...	9.0	120
NOV			JUN		
15...	.0	175	12...	9.5	110
DEC			21...	9.5	100
14...	.0	180	JUL		
JAN			10...	14.0	68
09...	.0	155	AUG		
FEB			14...	12.0	105
15...	.0	175	SEP		
MAR			11...	15.0	132
13...	5.0	220			
APR					
17...	7.0	130			

07089000 - COTTONWOOD C BL HOT SPRINGS, NR BUENA VISTA, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
OCT			APR		
18...	7.5	140	17...	6.5	140
NOV			MAY		
15...	3.0	140	16...	11.0	130
DEC			JUN		
13...	5.5	150	11...	10.0	95
JAN			JUL		
11...	2.5	140	10...	13.5	90
FEB			AUG		
14...	5.5	150	06...	14.0	120
MAR			SEP		
14...	3.0	145	10...	13.5	129

07091200 - ARKANSAS RIVER NEAR NATHROP, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
OCT			MAY		
18...	7.0	208	17...	8.0	122
NOV			JUN		
15...	2.0	200	14...	11.5	100
JAN			JUL		
11...	.0	180	12...	14.0	80
FEB			AUG		
15...	1.5	195	10...	15.0	125
MAR			SEP		
15...	6.5	200	13...	13.0	180
APR					
19...	9.5	140			

SPECIFIC CONDUCTANCE AND TEMPERATURE DATA AT SELECTED SITES

07091500 - ARKANSAS RIVER AT SALIDA, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)
NOV	
29...	.0
DEC	
14...	.0
29...	.0
JAN	
12...	.0
25...	.0
FEB	
08...	.0
23...	.0
MAR	
08...	3.0
29...	4.0
APR	
27...	7.5
MAY	
15...	9.0
25...	10.0
JUN	
07...	8.5
22...	12.0
JUL	
05...	11.5
AUG	
03...	10.0
31...	9.0
SEP	
14...	7.0
28...	9.5

07093700 - ARKANSAS RIVER NEAR WELLSVILLE, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)
NOV	
29...	.0
DEC	
14...	.0
29...	.0
JAN	
12...	.0
25...	.0
FEB	
08...	.0
23...	.0
MAR	
08...	4.0
29...	3.0
APR	
27...	7.0
MAY	
15...	10.0
25...	10.5
JUN	
22...	10.5
JUL	
05...	12.0
20...	11.5
AUG	
03...	13.0
31...	9.0
SEP	
14...	5.5
28...	10.5

07094500 - ARKANSAS RIVER AT PARKDALE, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
OCT		
16...	11.0	280
NOV		
16...	1.5	200
DEC		
11...	.0	320
JAN		
12...	.0	320
MAR		
16...	8.0	340
APR		
16...	13.5	235
MAY		
18...	8.5	220
JUN		
15...	13.0	165
20...	14.0	170
JUL		
13...	15.5	145
AUG		
10...	17.0	190
SEP		
13...	17.5	305

SPECIFIC CONDUCTANCE AND TEMPERATURE DATA AT SELECTED SITES

07095000 - GRAPE CREEK NEAR WESTCLIFFE, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT		MAR	
05...	10.0	08...	2.0
NOV		23...	7.0
13...	8.0	APR	
27...	.0	06...	8.0
DEC		20...	12.0
29...	1.0	MAY	
JAN		07...	12.5
11...	1.0		
25...	1.0		

07096000 - ARKANSAS RIVER AT CANON CITY, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT		MAR	
05...	9.0	08...	6.0
19...	.0	23...	8.0
NOV		APR	
13...	.0	06...	10.0
27...	.0	20...	12.0
DEC		MAY	
15...	1.0	07...	13.5
JAN			
11...	1.0		

07096500 - FOURMILE CREEK NEAR CANON CITY, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
OCT			APR		
13...	23.0	800	20...	4.0	850
NOV			MAY		
13...	9.0	875	17...	26.0	950
DEC			JUN		
14...	11.5	1100	15...	19.0	1120
JAN			JUL		
15...	11.5	1500	13...	20.0	1450
FEB			AUG		
16...	9.5	1000	10...	17.0	1900
MAR			SEP		
19...	16.0	3500	13...	17.0	1600

SPECIFIC CONDUCTANCE AND TEMPERATURE DATA AT SELECTED SITES

07099100 - BEAVER CREEK NEAR PORTLAND, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
DEC		
15...	.0	2650
JAN		
15...	.0	2600
FEB		
16...	4.0	2600
MAR		
19...	12.5	2800
APR		
20...	20.0	2550
MAY		
10...	20.5	2800
JUN		
04...	22.0	190
15...	21.5	235
JUL		
13...	33.5	2500
AUG		
15...	19.0	2800
26...	15.0	--
SEP		
14...	24.5	2200

07099235 - TURKEY CREEK NR STONE CITY, CO

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
MAR		
09...	5.0	1300
27...	11.5	1380
APR		
24...	20.0	1270
JUL		
10...	20.5	1320
AUG		
16...	19.0	1000
SEP		
11...	17.0	1500

07099400 - ARKANSAS RIVER ABOVE PUEBLO, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)
OCT	
05...	10.0
19...	7.0
NOV	
13...	.5
27...	4.0
DEC	
29...	1.0
JAN	
09...	2.0
25...	3.0
MAR	
06...	6.0
23...	5.5
APR	
02...	6.5
09...	7.5
APR	
10...	8.0
10...	8.5
11...	8.0
20...	9.0
MAY	
07...	14.0
10...	12.5
JUN	
28...	10.5
SEP	
19...	19.5
19...	20.0
19...	19.0
20...	19.0

SPECIFIC CONDUCTANCE AND TEMPERATURE DATA AT SELECTED SITES

07103700 - FOUNTAIN CREEK NEAR COLORADO SPRINGS, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (MICROMHOS)
OCT		
31...	9.5	470
NOV		
01...	8.5	490
29...	4.5	495
30...	7.0	--
DEC		
27...	1.0	--
28...	.5	480
JAN		
18...	2.0	460
25...	2.0	450
FEB		
12...	4.0	750
27...	5.0	480
MAR		
01...	7.5	475
27...	9.5	390
APR		
05...	6.5	409
24...	11.0	280
30...	10.0	330
MAY		
23...	9.5	220
29...	13.0	230
JUL		
05...	22.0	--
05...	22.0	--
31...	14.5	300
AUG		
03...	18.0	560
20...	13.5	355
22...	12.0	305
SEP		
13...	11.5	225
14...	9.5	220

07103747 - MONUMENT CREEK AT PALMER LAKE, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (MICROMHOS)
OCT		
31...	12.0	220
NOV		
01...	5.5	170
29...	3.0	250
DEC		
01...	1.5	200
27...	1.0	220
28...	.5	215
JAN		
17...	1.0	230
25...	.0	230
FEB		
28...	1.5	160
MAR		
20...	3.0	225
APR		
26...	8.0	85
MAY		
20...	12.5	105
25...	12.5	105
JUL		
02...	19.5	160
AUG		
01...	20.0	195
02...	25.0	--
21...	15.5	220
22...	13.0	180
SEP		
14...	14.0	210
14...	14.0	210
28...	20.5	225

07103800 - WEST MONUMENT CREEK AT AIR FORCE ACADEMY, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (MICROMHOS)
OCT		
30...	5.5	--
NOV		
30...	3.0	110
DEC		
27...	1.0	100
JAN		
17...	.0	108
MAR		
20...	1.0	125
APR		
24...	5.5	90
MAY		
23...	8.0	365
JUL		
02...	13.5	320
AUG		
01...	12.0	115
21...	11.0	118

SPECIFIC CONDUCTANCE AND TEMPERATURE DATA AT SELECTED SITES

07103950 - KETTLE CREEK NEAR BLACK FOREST, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
MAR		
27...	6.0	--
APR		
26...	14.5	230
MAY		
23...	8.0	--
JUL		
02...	25.0	660
AUG		
02...	22.0	--
21...	19.0	270

07104000 - MONUMENT CREEK AT PIKEVIEW, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
NOV		
01...	6.0	350
29...	2.5	435
DEC		
28...	.5	480
JAN		
25...	.0	412
FEB		
28...	5.0	270
MAR		
21...	6.5	325
APR		
25...	11.0	190
MAY		
29...	19.0	265
JUL		
06...	21.0	360
AUG		
03...	29.5	415
22...	14.0	422
SEP		
14...	12.0	422

07105500 - FOUNTAIN CREEK AT COLORADO SPRINGS, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
OCT		
31...	12.0	965
NOV		
01...	12.5	920
29...	6.0	1100
30...	7.0	940
DEC		
27...	3.0	860
28...	4.0	920
JAN		
15...	1.0	965
25...	1.5	840
FEB		
27...	7.0	760
MAR		
01...	10.0	720
19...	4.0	625
21...	4.0	400
APR		
05...	17.0	408
24...	14.5	385
30...	13.0	360
MAY		
25...	11.0	485
30...	12.0	475
JUL		
03...	28.0	670
06...	24.5	670
31...	19.0	625
AUG		
03...	23.0	775
21...	22.5	690
22...	23.5	700
SEP		
13...	16.0	715
14...	14.0	550

07105800 - FOUNTAIN CREEK AT SECURITY, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
DEC		
12...	.0	1180
26...	1.0	1280
FEB		
13...	8.5	900
MAR		
01...	11.0	925
19...	9.5	900
22...	3.5	850
APR		
05...	16.0	890
23...	17.0	570

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
MAY		
22...	21.0	550
JUL		
03...	25.5	1000
AUG		
01...	29.0	925
20...	21.0	800
27...	25.0	905
SEP		
13...	17.5	700

07105900 - JIMMY CAMP CREEK AT FOUNTAIN, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
NOV		
16...	12.0	3500
30...	5.5	2500
DEC		
26...	1.0	3100
FEB		
12...	9.0	3250
26...	12.5	--
MAR		
19...	15.5	3300
22...	4.0	2600
APR		
05...	19.5	3300
23...	20.5	3250

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
MAY		
22...	22.0	3250
JUL		
06...	24.0	2600
26...	22.0	--
AUG		
01...	29.0	3000
20...	24.0	3450
27...	16.0	1700
SEP		
13...	16.0	3250

07105924 - WOMACK DITCH NEAR FT CARSON,COLO

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
MAR		
08...	5.0	200
28...	3.0	210
MAY		
02...	6.0	90
29...	10.0	65

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
JUN		
29...	15.0	90
AUG		
15...	16.0	115
SEP		
11...	17.0	115

07106500 - FOUNTAIN CREEK AT PUEBLO, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (MICROMHOS)
OCT		
10...	21.0	4000
NOV		
30...	12.0	1900
DEC		
28...	1.0	2000
FEB		
05...	1.0	2000
12...	2.0	1500
MAR		
02...	8.0	1900
22...	6.0	950
APR		
04...	14.5	1300
09...	12.0	--
MAY		
03...	8.0	1250
21...	19.0	910
JUN		
05...	28.0	1155
19...	24.0	1200
JUL		
31...	25.0	--
AUG		
27...	15.5	825
SEP		
21...	26.0	2450

07107900 - GREENHORN CREEK NEAR RYE, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (MICROMHOS)
APR		
09...	4.5	86
MAY		
09...	2.0	66
JUN		
20...	11.0	60
JUL		
25...	15.5	80
AUG		
28...	12.5	90

07108050 - GREENHORN CREEK NEAR COLORADO CITY, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (MICROMHOS)
APR		
09...	12.0	2100
MAY		
08...	14.0	1430
JUN		
20...	19.0	733
JUL		
25...	21.5	1650
AUG		
28...	21.0	1200

07108900 - ST. CHARLES RIVER AT VINELAND, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (MICROMHOS)
OCT		
17...	14.5	2720
NOV		
06...	9.5	3000
21...	4.0	3000
27...	5.5	3200
DEC		
27...	2.0	2800
JAN		
31...	.0	2300
FEB		
28...	9.0	3000
APR		
03...	9.0	2600
09...	15.0	--
12...	12.5	2500
MAY		
01...	18.0	2000
21...	17.0	2200
JUN		
06...	20.0	1870
JUL		
06...	26.0	2200
AUG		
07...	25.0	3300
10...	17.5	700
13...	26.0	2900
SEP		
05...	25.5	3200
28...	21.0	2200

07109500 - ARKANSAS RIVER NEAR AVONDALE, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (MICROMHOS)
OCT		
04...	17.0	920
NOV		
09...	17.0	1000
27...	12.0	940
DEC		
22...	11.0	1200
FEB		
01...	4.0	1000
MAR		
01...	14.0	1400
27...	9.0	--
APR		
05...	16.0	1000
09...	14.0	--
10...	10.0	--
10...	12.5	960
13...	13.0	975
MAY		
15...	21.5	988
21...	16.5	760
29...	20.0	--
JUN		
19...	19.0	400
26...	21.5	326
JUL		
06...	19.0	310
18...	23.0	375
AUG		
01...	28.0	429
07...	20.5	475
10...	21.0	476
30...	23.0	585
SEP		
11...	22.5	480
17...	18.0	895
19...	21.0	580
19...	25.5	963
19...	24.5	985
19...	21.0	1010
20...	19.0	996
20...	18.0	1020
24...	22.0	725

07111000 - HUERFANO R AT MANZANARES XING, NR REDWING, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT		FEB	
12...	10.0	14...	.0
26...	3.0	MAR	
NOV		26...	6.5
30...	.0	APR	
DEC		20...	11.5
18...	.0	MAY	
JAN		07...	8.5
10...	.0		
22...	.0		

07114000 - CUCHARAS RIVER AT BOYD RANCH, NEAR LA VETA, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT		FEB	
12...	5.0	14...	.0
26...	4.0	MAR	
NOV		26...	7.0
30...	.0	APR	
JAN		05...	8.0
10...	.0	19...	11.5
22...	.0	MAY	
FEB		07...	12.0
05...	.0		

07117000 - ARKANSAS RIVER NEAR NEPESTA, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT		APR	
04...	2.0	11...	10.0
10...	13.0	12...	13.5
11...	4.0	13...	17.0
18...	.0	26...	16.0
25...	.0	MAY	
NOV		01...	15.0
01...	.0	09...	13.5
09...	1.0	15...	25.0
DEC		JUN	
13...	1.0	27...	19.0
22...	2.0	AUG	
JAN		01...	24.0
12...	2.0	10...	20.0
26...	2.0	31...	21.5
FEB		SEP	
02...	1.0	19...	22.0
MAR		19...	26.0
16...	6.0	19...	22.5
30...	12.0	20...	18.0
APR		20...	16.0
09...	14.0	20...	14.5
10...	13.0		
11...	8.5		

07119500 - APISHAPA RIVER NEAR FOWLER, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
NOV			JUL		
30...	12.0	--	06...	19.5	1700
DEC			25...	15.0	940
27...	1.0	3500	31...	16.0	1220
JAN			AUG		
31...	2.0	3400	01...	19.0	1100
FEB			10...	18.5	700
28...	8.0	3900	17...	19.5	1400
APR			29...	26.0	2000
03...	8.5	2800	SEP		
MAY			25...	16.5	2450
01...	19.0	2600			
JUN					
06...	23.0	760			

07119700 - ARKANSAS RIVER AT CATLIN DAM, NEAR FOWLER, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT		MAR	
04...	9.0	16...	8.0
11...	5.5	30...	15.5
25...	1.0	APR	
NOV		10...	13.0
01...	.0	11...	7.5
09...	.0	11...	10.0
22...	5.0	12...	10.0
DEC		13...	11.5
13...	1.0	26...	16.0
22...	3.0	MAY	
JAN		02...	16.0
12...	3.0	09...	13.0
26...	3.5		
FEB			
02...	2.5		

07121500 - TIMPAS CREEK AT MOUTH NEAR SWINK, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
OCT			JUN		
24...	13.0	2150	07...	24.0	1000
NOV			JUL		
29...	5.5	2000	05...	26.0	1700
JAN			31...	17.5	930
03...	.0	3500	AUG		
FEB			01...	22.0	1330
06...	7.0	3500	10...	20.0	2050
MAR			SEP		
06...	13.0	2400	05...	24.0	1050
APR			25...	20.5	1620
03...	8.0	1900			
MAY					
01...	21.5	2100			

07122400 - CROOKED ARROYO NEAR SWINK, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER- ATURE (DEG C)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	DATE	TEMPER- ATURE (DEG C)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)
DEC			JUN		
01...	11.0	3600	07...	21.0	1300
JAN			JUL		
03...	8.0	3000	05...	24.5	1280
FEB			AUG		
06...	8.0	3400	01...	23.0	1400
MAR			SEP		
06...	15.0	3500	05...	16.5	3400
APR			25...	21.5	2550
03...	8.5	1350			

07124000 - ARKANSAS RIVER AT LAS ANIMAS, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER- ATURE (DEG C)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	DATE	TEMPER- ATURE (DEG C)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)
OCT			APR		
24...	18.5	3800	17...	14.0	3500
NOV			MAY		
02...	11.0	--	02...	14.0	2900
DEC			14...	27.5	3800
01...	4.5	3800	31...	26.0	879
JAN			JUN		
05...	.0	--	19...	22.0	590
FEB			JUL		
07...	.0	2400	02...	27.5	--
MAR			18...	26.0	840
07...	17.0	2400	AUG		
13...	9.0	--	02...	22.5	1100
19...	5.5	--	16...	18.0	2390
APR			SEP		
04...	12.0	2450	04...	30.5	2750
12...	14.5	--	13...	19.5	1050
13...	16.0	--	26...	27.5	2300
13...	18.0	1580			

07124300 - LONG CANYON CREEK NEAR MADRID, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER- ATURE (DEG C)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	DATE	TEMPER- ATURE (DEG C)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)
OCT			JUL		
04...	17.5	630	20...	22.0	490
NOV			AUG		
16...	11.0	550	15...	13.5	180
JAN			23...	18.0	2350
09...	1.0	730	SEP		
FEB			26...	19.0	565
13...	6.0	558			
JUN					
13...	27.5	560			

07124410 - PURGATOIRE RIVER BELOW TRINIDAD LAKE, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
OCT		
04...	14.5	450
NOV		
16...	5.0	460
DEC		
13...	3.0	--
JAN		
10...	2.0	445
FEB		
13...	3.0	482
MAR		
28...	9.0	390
APR		
20...	11.5	472
MAY		
16...	13.5	392
23...	13.0	300
MAY		
24...	13.5	285
25...	14.0	270
JUN		
14...	12.5	215
JUL		
17...	17.0	220
AUG		
20...	18.0	245
23...	18.0	240
SEP		
11...	18.0	260
14...	16.5	225

07124500 - PURGATOIRE RIVER AT TRINIDAD, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)
OCT	
12...	9.0
26...	8.0
NOV	
30...	.0
DEC	
18...	.0
JAN	
10...	.0
22...	.0
FEB	
05...	.0
14...	3.0
APR	
05...	11.0
19...	18.0
MAY	
09...	10.5

07126100 - LUNING ARROYO NEAR MODEL, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)
JUL	
18...	21.5

SPECIFIC CONDUCTANCE AND TEMPERATURE DATA AT SELECTED SITES

07126200 - VAN BREMER ARROYO NEAR MODEL, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
OCT			APR		
03...	15.5	1850	19...	21.0	2070
NOV			MAY		
15...	6.5	1850	16...	22.0	2050
DEC			JUN		
12...	6.5	--	12...	27.5	1440
JAN			JUL		
08...	4.0	2200	18...	21.0	630
FEB			AUG		
12...	8.0	2180	22...	25.5	1420
MAR			SEP		
28...	17.5	1960	25...	20.0	1390

07126300 - PURGATOIRE RIVER NEAR THATCHER, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
OCT			APR		
03...	19.5	1500	19...	17.0	3190
NOV			MAY		
15...	4.5	5000	22...	13.5	1460
DEC			JUN		
12...	.5	--	12...	23.5	1750
JAN			JUL		
08...	.0	5300	18...	20.0	1020
FEB			AUG		
12...	.0	3450	22...	20.5	1080
MAR			SEP		
19...	9.0	4020	25...	20.5	3300

07128500 - PURGATOIRE RIVER NEAR LAS ANIMAS, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
OCT			MAY		
24...	15.5	4500	02...	15.0	6500
NOV			14...	19.5	5600
02...	13.5	6500	JUN		
DEC			01...	15.5	2550
11...	6.5	6000	JUL		
JAN			02...	32.0	2600
03...	1.0	5500	18...	25.0	2000
FEB			23...	28.5	2050
07...	1.0	5500	AUG		
MAR			01...	24.0	1750
07...	11.5	5300	SEP		
APR			04...	27.5	3200
04...	12.0	4380	13...	21.0	2650
16...	20.5	6000	26...	24.0	3400

SPECIFIC CONDUCTANCE AND TEMPERATURE DATA AT SELECTED SITES

07133000 - ARKANSAS RIVER AT LAMAR, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (MICROMHOS)	DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (MICROMHOS)
OCT			MAY		
25...	10.0	5200	14...	25.0	5100
NOV			31...	14.5	1280
02...	14.0	5200	JUN		
30...	3.0	5200	07...	20.0	1650
JAN			20...	23.0	1220
04...	.0	5000	JUL		
FEB			03...	23.0	960
08...	.0	5000	AUG		
MAR			02...	24.5	1420
08...	14.0	5800	15...	15.0	1950
APR			30...	26.0	1700
05...	12.0	5200	SEP		
17...	12.0	3700	14...	14.5	2750
MAY			27...	21.5	3100
04...	7.5	3700			

07134100 - BIG SANDY CREEK NEAR LAMAR, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (MICROMHOS)	DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (MICROMHOS)
NOV			JUN		
03...	7.0	4900	07...	23.5	4130
FEB			JUL		
08...	1.5	5000	02...	33.0	2580
MAR			AUG		
07...	13.5	5500	02...	40.0	4300
APR			15...	14.5	5250
04...	15.0	5200	30...	23.5	4800
MAY			SEP		
04...	15.0	5000	27...	19.0	3050

07137500 - ARKANSAS RIVER NEAR COOLIDGE, KANS.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (MICROMHOS)	DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (MICROMHOS)
OCT			MAY		
26...	7.0	4250	30...	21.0	--
NOV			31...	15.0	1200
14...	2.0	4150	JUN		
DEC			19...	23.0	4050
05...	1.0	4100	26...	26.0	1810
FEB			JUL		
01...	.5	7800	11...	30.5	2900
14...	9.0	4200	16...	24.5	1230
MAR			19...	25.0	910
07...	10.0	4700	30...	23.0	3100
07...	10.0	--	AUG		
APR			28...	24.0	2350
10...	12.0	4600	SEP		
MAY			13...	24.0	4200
15...	18.0	4600	21...	17.5	3200
29...	32.0	4500			
30...	21.0	1160			

SPECIFIC CONDUCTANCE AND TEMPERATURE DATA AT SELECTED SITES

08214500 - NORTH CLEAR CREEK BL CONTINENTAL RESERVOIR, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT		MAY	
05...	11.0	04...	3.5
16...	10.0	16...	2.5
NOV		JUN	
06...	6.5	13...	8.5
APR		27...	11.0
24...	5.0		

08216500 - WILLOW CREEK AT CREEDE, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (MICRO-MHOS)
OCT			MAY		
02...	8.0	90	16...	6.0	175
NOV			31...	9.0	130
06...	4.5	225	JUN		
30...	4.0	180	13...	11.0	140
JAN			20...	14.0	310
08...	2.0	190	JUL		
FEB			05...	12.0	240
05...	.0	140	AUG		
MAR			01...	13.0	200
15...	7.5	200	29...	6.0	110
APR					
12...	7.0	240			

08217500 - RIO GRANDE AT WAGONWHEEL GAP, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (MICRO-MHOS)
OCT			DEC		
03...	13.5	100	04...	.0	120
NOV			JAN		
09...	4.0	110	09...	.0	100

08218500 - GOOSE CREEK AT WAGONWHEEL GAP, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT		MAR	
09...	7.0	21...	2.0
25...	5.0	APR	
NOV		05...	3.0
08...	6.0	16...	5.0
20...	1.5	30...	5.0
DEC		MAY	
05...	1.0	14...	6.0
20...	1.0	30...	8.5
JAN		JUN	
08...	1.0	12...	9.5
23...	1.0	25...	9.5
FEB		JUL	
07...	1.0	10...	13.0
21...	1.0	SEP	
MAR		10...	15.5
08...	1.0		

08219500 - SOUTH FORK RIO GRANDE AT SOUTH FORK, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT		APR	
09...	9.0	05...	2.0
26...	5.0	16...	7.5
NOV		30...	6.0
08...	6.0	MAY	
20...	.5	14...	5.0
DEC		30...	5.5
05...	.0	JUN	
20...	.0	12...	8.0
JAN		16...	5.0
08...	.0	25...	9.5
23...	.0	JUL	
FEB		10...	9.0
07...	.0	SEP	
21...	.0	10...	10.0
MAR			
08...	.0		
21...	1.0		

SPECIFIC CONDUCTANCE AND TEMPERATURE DATA AT SELECTED SITES

08220000 - RIO GRANDE NEAR DEL NORTE, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT		MAR	
02...	15.0	01...	.0
10...	4.5	09...	.0
16...	10.0	21...	1.0
NOV		APR	
01...	6.0	02...	1.5
09...	2.0	11...	.5
22...	.0	20...	7.0
DEC		MAY	
01...	1.0	01...	9.5
11...	.5	10...	4.0
21...	.0	21...	9.0
JAN		28...	6.5
02...	.5	JUN	
11...	.0	01...	8.5
22...	.0	11...	7.5
FEB		20...	7.0
01...	.0	JUL	
12...	.0	02...	10.0
21...	.0	11...	12.0

08220500 - PINOS CREEK NEAR DEL NORTE, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT		MAR	
19...	5.0	21...	1.0
26...	.0	APR	
NOV		05...	3.0
08...	2.0	16...	8.0
20...	.0	30...	4.0
DEC		MAY	
05...	.0	14...	10.0
20...	.0	30...	9.5
JAN		JUN	
08...	.0	12...	13.0
23...	.0	25...	7.5
FEB		JUL	
07...	.0	10...	15.0
21...	.0	SEP	
MAR		18...	6.0
08...	.0		

08221500 - RIO GRANDE NEAR MONTE VISTA, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT		MAR	
10...	8.5	22...	.5
17...	8.5	26...	2.0
30...	3.5	APR	
NOV		09...	3.5
13...	.0	23...	9.0
29...	.0	MAY	
DEC		07...	8.5
15...	.5	22...	9.0
JAN		29...	11.0
03...	.0	JUN	
15...	.0	05...	12.0
29...	.0	18...	11.0
FEB		JUL	
15...	1.0	05...	13.0
26...	.5	SEP	
MAR		24...	20.0
13...	1.0		

08223000 - RIO GRANDE AT ALAMOSA, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPERATURE (DEG C)
OCT	
05...	11.0
09...	15.0
16...	13.5
17...	11.0
22...	7.0
30...	9.0
NOV	
06...	6.5
13...	1.5
28...	.5
DEC	
18...	.0
JAN	
04...	.0
17...	.5
FEB	
05...	.0
23...	.5
MAR	
07...	.0
26...	7.5
APR	
05...	11.5
09...	7.5
APR	
18...	9.5
19...	9.0
23...	16.0
26...	19.0
27...	10.0
MAY	
04...	2.5
07...	9.0
16...	4.5
22...	15.0
29...	16.0
31...	7.0
JUN	
05...	17.0
09...	11.0
13...	8.0
18...	17.0
27...	8.0
JUL	
05...	18.0
13...	8.0
SEP	
24...	12.0

08224500 - KERBER C AT ASHLEY RANCH, NR VILLA GROVE, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPERATURE (DEG C)
OCT	
06...	10.0
20...	6.0
NOV	
06...	5.0
21...	.0
DEC	
05...	.5
29...	.0
JAN	
09...	.0
23...	.0
FEB	
07...	.0
20...	.0
MAR	
05...	.0
MAR	
19...	.0
APR	
04...	.0
11...	.5
17...	7.0
30...	12.5
MAY	
16...	10.5
29...	12.0
JUN	
14...	14.0
26...	15.0
JUL	
09...	16.0

08227000 - SAGUACHE CREEK NEAR SAGUACHE, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPERATURE (DEG C)
OCT	
06...	8.0
20...	5.0
NOV	
06...	4.5
21...	.5
DEC	
05...	.0
29...	.0
JAN	
08...	.0
23...	.0
FEB	
07...	.0
20...	.0
MAR	
05...	.0
19...	.0
APR	
06...	.0
17...	10.0
30...	10.0
MAY	
16...	7.0
29...	14.0
JUN	
14...	18.0
25...	16.5
JUL	
09...	17.0

SPECIFIC CONDUCTANCE AND TEMPERATURE DATA AT SELECTED SITES

08227500 - NORTH CRESTONE CREEK NEAR CRESTONE, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT		MAR	
06...	7.0	05...	.5
20...	5.5	19...	.5
NOV		APR	
06...	2.5	04...	.0
21...	.0	17...	5.0
DEC		30...	6.5
05...	.0	MAY	
29...	.0	16...	6.5
JAN		29...	7.0
08...	.0	JUN	
23...	.0	14...	7.0
FEB		26...	7.0
07...	.5		
20...	1.0		

08230500 - CARNERO CREEK NEAR LA GARITA, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT		MAR	
06...	3.0	05...	.0
20...	2.5	19...	.0
NOV		APR	
06...	2.0	06...	6.0
21...	.5	17...	7.0
DEC		30...	6.0
05...	.5	MAY	
29...	.0	16...	8.5
JAN		28...	8.5
08...	.0	JUN	
25...	.0	14...	13.0
FEB		25...	15.0
07...	.0		
20...	.0		

08231000 - LA GARITA CREEK NEAR LA GARITA, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT		MAR	
06...	4.5	05...	.0
20...	3.0	19...	.0
NOV		APR	
06...	1.0	06...	9.0
21...	.5	17...	5.5
DEC		30...	4.0
05...	.5	MAY	
29...	.5	16...	6.5
JAN		28...	5.0
08...	.0	JUN	
25...	.0	14...	10.0
FEB		25...	12.0
07...	.0		
20...	1.0		

SPECIFIC CONDUCTANCE AND TEMPERATURE DATA AT SELECTED SITES

08236000 - ALAMOSA CREEK ABOVE TERRACE RESERVOIR, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT		MAR	
25...	7.5	26...	8.5
29...	10.5	APR	
NOV		09...	2.0
14...	.0	25...	7.5
30...	.0	MAY	
DEC		08...	.5
15...	.0	23...	4.0
JAN		JUN	
03...	.0	06...	8.0
15...	.5	19...	5.0
29...	.0	JUL	
FEB		05...	11.0
14...	.0	SEP	
26...	.0	26...	12.0
MAR			
13...	1.0		

08238000 - LA JARA CREEK AT GALLEGOS RANCH, NR CAPULIN, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT		MAR	
09...	11.0	26...	.0
25...	8.0	APR	
NOV		09...	4.0
14...	.5	25...	5.0
30...	.0	MAY	
DEC		07...	9.5
15...	.0	23...	10.0
JAN		JUN	
03...	.0	06...	10.0
15...	.0	19...	9.5
29...	.0	JUL	
FEB		05...	14.0
14...	.0	SEP	
26...	.0	26...	17.0
MAR			
13...	.5		

08248000 - RIO GRANDE AB MOUTH TRINCHERA C NR LASAUSES, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT		MAR	
09...	16.5	27...	4.5
18...	10.0	APR	
30...	8.5	10...	7.0
NOV		25...	13.0
13...	4.5	MAY	
28...	.5	09...	2.5
DEC		24...	15.0
18...	.0	JUN	
JAN		05...	15.0
03...	.0	18...	16.0
17...	.0	JUL	
FEB		05...	17.5
06...	.0	SEP	
21...	3.0	20...	18.0
MAR			
06...	3.0		

08240500 - TRINCHERA C AB TURNERS RANCH, NR FT GARLAND, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT		MAR	
04...	10.0	12...	.5
19...	6.5	20...	1.0
NOV		APR	
10...	6.0	05...	.0
20...	1.0	16...	6.0
DEC		MAY	
14...	.5	03...	10.0
26...	.5	14...	12.5
JAN		29...	9.5
09...	.0	JUN	
24...	.5	12...	11.0
FEB		25...	12.0
13...	.0	JUL	
27...	.0	09...	12.0

08241500 - SANGRE DE CRISTO CREEK NEAR FORT GARLAND, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT		MAR	
04...	12.0	20...	2.0
19...	6.0	APR	
NOV		05...	7.0
10...	6.5	16...	11.0
20...	2.0	20...	10.5
DEC		MAY	
12...	1.0	03...	10.5
26...	1.0	14...	15.5
JAN		29...	14.5
09...	.5	JUN	
24...	1.0	12...	18.0
FEB		25...	22.0
13...	1.0	JUL	
27...	.5	09...	18.0
MAR			
12...	3.0		

08242500 - UTE CREEK NEAR FORT GARLAND, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT		MAR	
04...	16.5	21...	.0
19...	6.5	APR	
NOV		05...	6.5
10...	5.0	16...	14.0
20...	1.0	MAY	
DEC		03...	10.0
12...	.5	14...	16.0
26...	.0	29...	13.0
JAN		JUN	
09...	.0	12...	17.0
24...	.0	25...	17.0
FEB		JUL	
13...	.0	09...	11.5
27...	.0		
MAR			
12...	.0		
15...	1.0		

08243500 - TRINCHERA CREEK BELOW SMITH RES, NR BLANCA, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT		MAR	
04...	10.0	21...	3.0
19...	9.0	APR	
NOV		05...	11.0
10...	6.5	16...	15.0
20...	7.0	MAY	
DEC		03...	12.0
12...	2.0	14...	10.5
26...	1.5	29...	15.5
JAN		JUN	
09...	2.0	12...	16.5
24...	.5	25...	15.0
FEB		JUL	
13...	.5	09...	17.0
27...	4.0		
MAR			
12...	5.0		
15...	8.0		

08245000 - CONEJOS RIVER BELOW PLATORO RESERVOIR, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT		MAY	
09...	7.0	25...	2.5
25...	2.5	JUN	
NOV		07...	7.5
09...	8.0	19...	8.5
APR		27...	7.0
27...	4.5	SEP	
MAY		26...	9.5
03...	2.5		
15...	1.5		

08246500 - CONEJOS RIVER NEAR MOGOTE, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT		MAR	
02...	14.0	22...	1.5
11...	12.0	APR	
20...	5.0	02...	8.0
NOV		11...	6.0
01...	9.0	23...	7.0
13...	2.0	MAY	
21...	1.0	01...	6.0
DEC		03...	5.0
01...	.5	10...	7.5
11...	.0	21...	4.5
21...	.0	JUN	
JAN		01...	5.0
02...	.0	07...	7.5
11...	.0	11...	10.0
22...	.0	21...	9.0
FEB		27...	9.5
01...	.0	JUL	
09...	.5	02...	8.5
22...	.5	11...	11.0
MAR		SEP	
01...	1.0	21...	11.0
12...	1.5		

08247500 - SAN ANTONIO RIVER AT ORTIZ, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
NOV		MAR	
01...	9.0	22...	.5
13...	1.0	APR	
21...	1.0	02...	.5
DEC		11...	4.0
01...	.5	23...	5.0
11...	.0	MAY	
21...	.0	01...	5.5
JAN		10...	3.0
02...	.0	20...	7.0
11...	.0	JUN	
22...	.0	01...	10.0
FEB		11...	17.0
01...	.0	21...	19.5
09...	.0	JUL	
22...	.0	02...	22.0
MAR		11...	23.0
01...	.0		
12...	.0		

08248000 - LOS PINOS RIVER NEAR ORTIZ, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT		MAR	
02...	10.0	12...	.5
11...	9.0	22...	2.0
20...	7.5	APR	
NOV		02...	6.5
01...	8.0	11...	6.0
13...	2.0	23...	6.0
21...	1.5	MAY	
DEC		01...	6.0
01...	1.0	10...	2.0
11...	.0	21...	4.5
21...	.0	25...	3.5
JAN		JUN	
02...	.0	01...	3.5
11...	.0	11...	12.0
22...	.0	21...	12.0
FEB		JUL	
01...	.0	02...	14.0
09...	.0	11...	16.0
22...	.0	SEP	
MAR		21...	15.0
01...	.0		

08248500 - SAN ANTONIO RIVER AT MOUTH, NEAR MANASSA, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
NOV		APR	
14...	.5	02...	2.0
28...	1.0	09...	6.5
DEC		23...	11.0
15...	.0	MAY	
28...	.0	07...	9.5
JAN		20...	12.5
11...	.0	24...	15.5
31...	.0	JUN	
FEB		08...	15.0
15...	.5	19...	12.0
28...	.5	JUL	
MAR		05...	15.0
13...	.5		

08249000 - CONEJOS RIVER NEAR LASAUSES, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT		MAR	
02...	13.0	22...	1.5
10...	18.0	APR	
19...	15.0	02...	2.0
NOV		10...	10.5
01...	8.5	20...	11.5
09...	11.0	MAY	
22...	6.5	01...	8.5
DEC		04...	9.0
01...	1.5	08...	10.0
11...	.0	21...	9.5
21...	.0	25...	14.0
JAN		JUN	
03...	1.0	01...	14.0
11...	.0	10...	18.0
22...	.5	20...	17.0
FEB		JUL	
01...	.0	02...	16.0
12...	.0	SEP	
21...	1.0	20...	15.0
MAR		28...	13.0
01...	2.0		
09...	5.5		

08250000 - CULEBRA CREEK AT SAN LUIS, CO.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT		MAR	
04...	9.5	12...	9.5
19...	13.5	20...	2.0
NOV		APR	
08...	11.5	05...	10.5
20...	5.5	16...	15.0
DEC		MAY	
12...	3.0	03...	8.5
26...	2.5	14...	11.0
JAN		29...	13.0
09...	2.0	JUN	
24...	2.0	12...	11.0
FEB		JUL	
13...	2.0	09...	21.0
27...	3.0		

08252000 - RIO GRANDE AT COLORADO-NEW MEXICO STATE LINE

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT		MAR	
03...	17.0	06...	.5
19...	12.0	28...	6.5
NOV		APR	
08...	6.5	10...	7.5
20...	1.5	24...	12.0
DEC		MAY	
12...	.0	09...	7.5
28...	.0	24...	17.0
JAN		JUN	
09...	.0	07...	18.5
30...	.0	20...	15.0
FEB		JUL	
22...	.0	06...	18.5

ADAMS COUNTY

395727N104071701 SC 1-60-17DCC. Carl Sanden. Drilled irrigation water-table well in alluvium. Diameter, 18 in (0.46 m). Depth, 87 ft (26.5 m). MP, 1.3 ft (0.40 m) above lsd. Altitude of land surface, 4,830.8 ft (1,472.43 m). Records available: 1942-79.

Highest water level, 25.09 ft (7.647 m) below lsd, Nov. 19, 1942; lowest water level, 47.28 ft (14.41 m) below lsd, Mar. 6, 1979.

Mar. 6, 1979 47.28 ft

395643N104183301 SC 1-62-22DCA. Charles B. Nordloh. Drilled irrigation water-table well in alluvium. Diameter, 18 in (0.46 m). Depth, 82 ft (25.0 m). MP, 0.8 ft (0.24 m) below lsd. Altitude of land surface, 4,994 ft (1,522 m). Records available: 1946-79.

Highest water level, 44.21 ft (13.475 m) below lsd, Nov. 25, 1949; lowest water level, 61.9 ft (18.87 m) below lsd, Mar. 12, 1973.

Mar. 8, 1979 60.14 ft

ALAMOSA COUNTY

372154N105555401 NA36- 9-13AAA. U.S. Geological Survey. Jetted observation water-table well in basin-fill deposits. Diameter, 3 in (0.076 m). Depth, 10 ft (3.0 m). MP, 2.3 ft (0.70 m) above lsd. Altitude of land surface, 7,558.1 ft (2,303.71 m). Records available: 1949-64, 1966-75.

Highest water level, 0.07 ft (0.021 m) below lsd, May 5, 1968; lowest water level, 6.17 ft (1.881 m) below lsd, Jan. 6, 1964.

1979 No measurement.

373409N106021501 NA39- 9-31CCC. U.S. Geological Survey. Jetted observation water-table well in basin-fill deposits. Diameter, 3 in (0.076 m). Depth, 10 ft (3.0 m). MP, 1.70 ft (0.518 m) above lsd. Altitude of land surface, 7,567.4 ft (2,306.54 m). Records available: 1948-64, 1966-75, 1977.

Highest water level, 1.42 ft (0.433 m) below lsd, June 26, 1962; lowest water level, 5.78 ft (1.762 m) below lsd, Jan. 27, 1969.

1979 No measurement.

BACA COUNTY

373058N102151500 SC29-43-15CCB. James Thompson. Drilled observation artesian well in Cheyenne Sandstone Member of Purgatoire Formation. Diameter, 1.25 in (0.032 m). Depth, 343 ft or 104.5 m (reported). MP, 1.40 ft (0.427 m) above lsd. Altitude of land surface, 3,913 ft (1,193 m). Records available: 1955-79.

Highest water level, 48.60 ft (14.813 m) below lsd, Jan. 16, 1975; lowest water level, 68.74 ft (20.95 m) below lsd, Feb. 2, 1978.

Jan. 25, 1979 64.65 ft

BENT COUNTY

380228N103105600 SC23-52-13DDC. B. F. Owens. Drilled stock water-table well in valley-fill deposits. Diameter, 6 in (0.15 m). Depth, 19 ft (5.8 m). MP, 2.0 ft (0.61 m) above lsd. Altitude of land surface, 3,695 ft (1,187 m). Records available: 1959-75, 1979.

Highest water level, 8.6 ft (2.62 m) below lsd, Dec. 4, 1962; lowest water level, 16.6 ft (5.060 m) below lsd, Nov. 13, 1964.

Mar. 5, 1979 Dry

ELBERT COUNTY

391717N103475001 SC 9-57- 8ABB. J. C. Mattson. Drilled observation water-table well in alluvium. Diameter, 6 in (0.15 m). Depth, 28 ft (8.5 m). MP, 0.20 ft (0.061 m) above lsd. Altitude of land surface, 5,475 ft (1,669 m). Records available: 1945-79.

Highest water level, 5.00 ft (1.524 m) below lsd, July 2, 1947; lowest water level, 7.92 ft (2.414 m) below lsd, Mar. 2, 1977.

Mar. 3, 1979 7.40 ft

EL PASO COUNTY

390441N104184501 SC11-62-22ADC. Anthony Eurich. Drilled irrigation water-table well in alluvium. Diameter, 24 in (0.61 m). Depth, 44 ft (13.4 m). MP, 0.80 ft (0.244 m) above lsd. Altitude of land surface, 6,364.8 ft (1,940.0 m). Records available: 1945-79.

Highest water level, 5.49 ft (1.673 m) below lsd, Aug. 9, 1947; lowest water level, 8.48 ft (2.585 m) below lsd, July 11, 1952.

Mar. 13, 1979 6.95 ft

HUERFANO COUNTY

373922N104501401 SC-27-67-36ACB. State of Colorado. Drilled stock water-table well in Trinidad Sandstone. Diameter, 7 in (0.178 m). Depth, 62 ft (18.9 m). MP, 2.2 ft (0.67 m) above lsd. Altitude of land surface, 6,282 ft (1,915 m). Records available: 1950-75, 1979.

Highest water level, 42.5 ft (12.95 m) below lsd, Jan. 10, 1975; lowest water level, 48.8 ft (14.87 m) below lsd, Apr. 26, 1955.

May 21, 1979 42.29 ft

KIOWA COUNTY

383230N102274601 SC17-45-31ABA. U.S. Government. Bored observation water-table well in valley-fill deposits. Diameter, 1.25 in (0.032 m). Depth, 11 ft (3.35 m). MP, 1.5 ft (0.46 m) above lsd. Altitude of land surface, 3,954.4 ft (1,205.30 m). Records available: 1959-79.

Highest water level, 5.33 ft (1.625 m) below lsd, Mar. 2, 1977; lowest water level, 8.6 ft (2.62 m) below lsd, Nov. 10, 1960.

Mar. 19, 1979 5.32 ft

KIT CARSON COUNTY

392230N103052000 SC 8-51-10ABB2. Drilled irrigation water-table well in alluvium and Meade Formation. Diameter, 18 in (0.46 m). Depth, 74 ft (22.6 m). MP, 0.1 ft (0.03 m) above lsd. Altitude of land surface, 4,870 ft (1,484 m). Records available: 1951-79.

Highest water level, 30.4 ft (9.27 m) below lsd, Jan. 15, 1952; lowest water level, 40.64 ft (12.387 m) below lsd, Jan. 8, 1979.

Jan. 8, 1979 40.64 ft

391110N102030100 SC10-42-12DCD. U.S. Government. Drilled observation water-table well in Ogallala Formation. Diameter, 1.25 in (0.032 m). Depth, 273 ft (83.2 m). MP, 3.30 ft (1.006 m) above lsd. Altitude of land surface, 3,997.7 ft (1,218.50 m). Records available: 1955-79.

Highest water level, 101.67 ft (30.989 m) below lsd, Aug. 12, 1955; lowest water level, 127.08 ft (38.733 m) below lsd, Jan. 9, 1979.

Jan. 9, 1979 127.08 ft

LARIMER COUNTY

402426N105013001 SB 5-68-17AAB. George Peak. Drilled irrigation water-table well in alluvium. Diameter, 48 in (1.22 m). Depth, 24 ft (7.3 m). MP, 1.0 ft (0.30 m) above lsd. Altitude of land surface, 4,948 ft (1,508 m). Records available: 1941-79.

Highest water level, 5.43 ft (1.655 m) below lsd, Oct. 27, 1947; lowest water level, 14.45 ft (4.404 m) below lsd. Apr. 20, 1949.

Mar. 13, 1979 11.14 ft

403333N104585001 SB 7-68-23CBB1. W. A. Scott. Drilled observation water-table well in alluvium. Diameter, 48 in (1.22 m). Depth, 52 ft (15.8 m). MP, 2.70 ft (0.823 m) above lsd. Altitude of land surface, 4,902 ft (1,494 m). Records available: 1941-79.

Highest water level, 6.1 ft (1.86 m) below lsd. Nov. 6, 1957; lowest water level, 10.5 ft (3.20 m) below lsd, Mar. 15, 1975.

Mar. 13, 1979 6.44 ft

404517N105014201 SB 9-68-17BAA. Harlan Seaworth. Drilled irrigation water-table well in alluvium. Diameter, 20 in (0.51 m). Depth, 92 ft (28.0 m). MP, 0.40 ft (0.122 m) above lsd. Altitude of land surface, 5,329 ft (1,624 m). Records available: 1939-79.

Highest water level, 29.02 ft (8.845 m) below lsd. Apr. 3, 1959; lowest water level, 64.45 ft (19.644 m) below lsd, Nov. 9, 1956.

Mar. 2, 1979 46.75 ft

LINCOLN COUNTY

385724N103155601 SC13-53- 10DC. U.S. Government. Bored observation water-table well in alluvium. Diameter, 1.25 in (0.032 m). Depth, 8 ft (2.4 m). MP, 1.0 ft (0.30 m) above lsd. Altitude of land surface, 4,720 ft (1,439 m). Records available: 1959-77, 1979.

Highest water level, 3.5 ft (1.07 m) below lsd. Apr. 4, 1960; lowest water level, 5.28 ft (1.609 m) below lsd. Mar. 2, 1977.

Mar. 19, 1979 4.65 ft

LOGAN COUNTY

404256N103062801 SB 9-51-31BBB. Frank Manuello. Drilled irrigation water-table well in alluvium. Diameter unknown. Depth, 106 ft (32.3 m). MP, 1.0 ft (0.30 m) above lsd. Altitude of land surface, 3,865 ft (1,179 m). Records available: 1947-79.

Highest water level, 2.89 ft (0.881 m) below lsd, Oct. 6, 1947; lowest water level, 7.16 ft (2.182 m) below lsd, Jan. 10, 1975.

Mar. 6, 1979 5.62 ft

405209N102481700 SB10-49- 2CBC. G. E. Henery. Drilled irrigation water-table well in alluvium. Diameter, 18 in (0.46 m). Depth, 32 ft (9.8 m). MP, 1.50 ft (0.457 m) above lsd. Altitude of land surface, 3,711 ft (1,131 m). Records available: 1947-79.

Highest water level, 3.95 ft (1.204 m) below lsd. Apr. 7, 1958; lowest water level, 9.03 ft (2.752 m) below lsd, Nov. 6, 1964.

Mar. 6, 1979 6.02 ft

MORGAN COUNTY

401452N103480200 SB 3-57- 6DCC. City of Fort Morgan. Dug and drilled observation water-table well in alluvium. Diameter, 12 in (0.30 m). Depth, 180 ft (54.9 m). MP, 5.0 ft (1.52 m) below lsd. Altitude of land surface, 4,325.6 ft (1,318.44 m). Records available: 1940-79.

Highest water level, 39.88 ft (12.155 m) below lsd. Jan. 20-21, 1955; lowest water level, 56.76 ft (17.300 m) below lsd, Sept. 5, 1965.

Mar. 2, 1979 52.87 ft

401424N103505200

SB 3-58-11DCC. Alex Stark. Drilled irrigation water-table well in alluvium. Diameter, 16 in (0.41 m). Depth, 145 ft (44.2 m). MP, 0.8 ft (0.24 m) above lsd. Altitude of land surface, 4,366.2 ft (1,330.82 m). Records available: 1939-65, 1967, 1970-79.

Highest water level, 51.85 ft (15.804 m) below lsd, Nov. 19, 1942; lowest water level, 69.87 ft (21.296 m) below lsd, Nov. 5, 1964.

Mar. 2, 1979 64.52 ft

401214N104053401

SB 3-60-22CCC. B. A. Holden. Drilled irrigation water-table well in alluvium. Diameter, 24 in (0.61 m). Depth, 120 ft (36.6 m). MP, 0.20 ft (0.061 m) above lsd. Altitude of land surface, 4,568.4 ft (1,392.45 m). Records available: 1936-79.

Highest water level, 49.44 ft (15.069 m) below lsd, Apr. 11, 1938; lowest water level, 94.12 ft (28.687 m) below lsd, Mar. 30, 1979.

Mar. 30, 1979 94.12 ft

401915N103321100

SB 4-55- 9DCC. Rudolph and Schooley. Drilled irrigation water-table well in alluvium. Diameter, 14 in (0.36 m). Depth, 88 ft (26.8 m). MP, 2.0 ft (0.61 m) above lsd. Altitude of land surface, 4,175.2 ft (1,272.60 m). Records available: 1930, 1932-79.

Highest water level, 14.75 ft (4.496 m) below lsd, Oct. 19, 1949; lowest water level, 25.76 ft (7.852 m) below lsd, Mar. 11, 1969.

Feb. 28, 1979 18.16 ft

402113N103580300

SB 5-59-34CAD. G. Williams. Dug domestic and stock water-table well in alluvium. Diameter, 36 in (0.91 m). Depth, 20 ft (6.1 m). MP, 2.20 ft (0.671 m) above lsd. Altitude of land surface, 4,362 ft (1,330 m) above msl. Records available: 1947-79.

Highest water level, 7.16 ft (2.182 m) below lsd, Sept. 9, 1948; lowest water level, 16.72 ft (5.096 m) below lsd, Apr. 7, 1956.

Mar. 6, 1979 16.08 ft

OTERO COUNTY

380706N103534200

SC22-58-21DAA. C. Meyer. Drilled irrigation water-table well in alluvium. Diameter, 24 in (0.61 m). Depth, 56 ft (17.1 m). MP, 1.90 ft (0.579 m) above lsd. Altitude of land surface, 4,282 ft (1,305 m). Records available: 1928-31, 1933-79.

Highest water level, 25.54 ft (7.785 m) below lsd, Mar. 28, 1955; lowest water level, 36.61 ft (11.159 m) below lsd, Mar. 6, 1979.

Mar. 6, 1979 36.61 ft

380334N103434700

SC23-57-12DAD. American Crystal Sugar Co. Drilled irrigation water-table well in alluvium. Diameter, 18 in (0.46 m). Depth, 27 ft (8.2 m). MP, 2.00 ft (0.610 m) above lsd. Altitude of land surface, 4,186 ft (1,276 m). Records available: 1944-78.

Highest water level, 8.87 ft (2.704 m) below lsd, Dec. 4, 1946; lowest water level, 15.78 ft (4.810 m) below lsd, Nov. 27, 1956.

1979 No measurement

PHILLIPS COUNTY

403230N102071000

SB 7-43-35ABB. Harold Gerhardt. Drilled irrigation water-table well in Ogallala Formation. Diameter, 18 in (0.46 m). Depth, 200 ft (61.0 m). MP, 0.70 ft (0.213 m) above lsd. Altitude of land surface, 3,598.8 ft (1,096.91 m). Records available: 1950-79.

Highest water level, 37.27 ft (11.360 m) below lsd, Mar. 27, 1963; lowest water level, 59.80 ft (18.227 m) below lsd, Jan. 19, 1979.

Jan. 19, 1979 59.80 ft

PROWERS COUNTY

380532N102311600

SC22-45-31CBB. U.S. Geological Survey. Driven observation water-table well in alluvium. Diameter, 1.25 in (0.032 m). Depth, 11 ft (3.35 m). MP, 3.5 ft (1.07 m) above lsd. Altitude of land surface, 3,567 ft (1,087 m). Records available: 1950-79.

Highest water level, 0.10 ft (0.030 m) below lsd, Aug. 24, 1967; lowest water level, 6.00 ft (1.829 m) below lsd, May 3, 1965.

Mar. 6, 1979   5.43 ft

PUEBLO COUNTY

381340N104205601

SC21-62- 9CCC. Susie C. Potestio. Drilled irrigation water-table well in alluvium. Diameter, 15 in (0.38 m). Depth, 28 ft (8.5 m). MP, 1.1 ft (0.34 m) above lsd. Altitude of land surface, 4,567 ft (1,392 m). Records available: 1929, 1934-75.

Highest water level, 13.90 ft (4.237 m) below lsd, Nov. 16, 1965; lowest water level, 20.28 ft (6.181 m) below lsd, Nov. 11, 1964.

1979   No measurement.

381443N104320701

SC21-64- 3DAC. Joseph Thomas. Drilled irrigation water-table well in alluvium. Diameter, 15 in (0.38 m). Depth, 35 ft (10.7 m). MP, 2.10 ft (0.640 m) above lsd. Altitude of land surface, 4,679 ft (1,426 m). Records available: 1934-75, 1979.

Highest water level, 12.20 ft (3.719 m) below lsd, Nov. 11, 1942; lowest water level, 27.50 ft (8.382 m) below lsd, Mar. 14, 1977.

Mar. 8, 1979   22.05 ft

380817N104043400

SC22-60-13BBC. C. J. Sindig. Drilled irrigation water-table well in alluvium. Diameter, 4 ft (1.2 m). Depth, 39 ft (11.9 m). MP, 1.0 ft (0.30 m) above lsd. Altitude of land surface, 4,375 ft (1,334 m). Records available: 1952-79.

Highest water level, 28.70 ft (8.748 m) below lsd, Nov. 29, 1969; lowest water level, 36.16 ft (11.022 m) below lsd, Nov. 28, 1956.

Mar. 5, 1979   31.30 ft

SEDGWICK COUNTY

404741N102030500

SB10-42-32DDD. U.S. Geological Survey. Drilled observation water-table well in Ogallala Formation. Diameter, 1.25 in (0.032 m). Depth, 207 ft (63.1 m). MP, 2.80 ft (0.853 m) above lsd. Altitude of land surface, 3,609.2 ft (1,100.08 m). Records available: 1952-79.

Highest water level, 176.34 ft (53.748 m) below lsd, Jan. 16, 1969; lowest water level, 188.14 ft (57.345 m) below lsd, Dec. 28, 1978.

Dec. 28, 1978   188.14 ft

405805N102235100

SB11-45- 5BBA. F. J. Hilderman. Drilled irrigation water-table well in alluvium. Diameter, 18 in (0.46 m). Depth, 52 ft (15.8 m). MP, 0.50 ft (0.152 m) above lsd. Altitude of land surface, 3,540 ft (1,079 m). Records available: 1947-79.

Highest water level, 11.23 ft (3.423 m) below lsd, Oct. 7, 1949; lowest water level, 20.70 ft (6.309 m) below lsd, Jan. 6, 1975.

Mar. 7, 1979   19.41 ft

405435N102364300

SB11-47-28BBB. James Jankovsky. Drilled irrigation water-table well in alluvium. Diameter, 24 in (0.61 m). Depth, 52 ft (15.8 m). MP, 0.50 ft (0.152 m) above lsd. Altitude of land surface, 3,624 ft (1,105 m). Records available: 1948-79.

Highest water level, 2.51 ft (0.765 m) below lsd, June 24, 1948; lowest water level, 5.61 ft (1.710 m) below lsd, Oct. 17, 1954.

Mar. 7, 1979   4.63 ft

WASHINGTON COUNTY

395706N103325901 SC 1-55-21BCD. A. Blake. Drilled irrigation water-table well in alluvium. Diameter, 18 in (0.46 m). Depth, 41 ft (12.5 m). MP, 1.50 ft (0.457 m) above lsd. Altitude of land surface, 4,487.3 ft (1,367.73 m). Records available: 1947-67, 1970-79.

Highest water level, 11.83 ft (3.606 m) below lsd, Dec. 9, 1947; lowest water level, 16.95 ft (5.166 m) below lsd, Oct. 20, 1960.

Mar. 19, 1979 14.70 ft

394038N102481800 SC 4-49-25ADD. Cecil Williams. Drilled irrigation water-table well in alluvium. Diameter, 18 in (0.46 m). Depth, 17 ft (5.2 m). MP, 0.20 ft (0.061 m) above lsd. Altitude of land surface, 4,350 ft (1,326 m). Records available: 1950-69, 1971-72, 1975-79.

Highest water level, 7.42 ft (2.262 m) below lsd, Aug. 6, 1951; lowest water level, 16.30 ft (4.968 m) below lsd, Jan. 4, 1979.

Jan. 4, 1979 16.30 ft

393902N102561800 SC 5-50- 2AAB. Lloyd McIrwin. Drilled irrigation water-table well in alluvium. Diameter, 24 in (0.61 m). Depth, 54 ft (16.5 m). MP, 2.00 ft (0.610 m) above lsd. Altitude of land surface, 4,514.6 ft (1,376.05 m). Records available: 1950-67, 1969-75.

Highest water level, 16.44 ft (5.011 m) below lsd, Nov. 8, 1962; lowest water level, 22.65 ft (6.904 m) below lsd, July 23, 1954.

1979 No measurement.

WELD COUNTY

400306N104154701 SB 1-62-13ADD. C. M. Roark. Drilled irrigation water-table well in alluvium. Diameter, 18 in (0.46 m). Depth, 76 ft (23.2 m). MP, 3.00 ft (0.914 m) above lsd. Altitude of land surface, 4,824.1 ft (1,470.39 m). Records available: 1947-75.

Highest water level, 18.29 ft (5.575 m) below lsd, Oct. 16, 1952; lowest water level, 47.7 ft (14.54 m) below lsd, Mar. 23, 1972.

1979 No measurement.

400427N104244801 SB 1-63- 2CCC. D. Trupp. Drilled irrigation water-table well in alluvium. Diameter, 20 in (0.51 m). Depth, 96 ft (29.3 m). MP, 0.30 ft (0.091 m) above lsd. Altitude of land surface, 4,822 ft (1,470 m). Records available: 1944-56, 1958-79.

Highest water level, 51.70 ft (15.758 m) below lsd, May 1, 1950; lowest water level, 75.90 ft (23.134 m) below lsd, Nov. 13, 1959.

Mar. 5, 1979 68.66 ft

400125N104370001 SB 1-65-25CCC1. Fred Haffner, Sr. Drilled irrigation water-table well in alluvium. Diameter, 24 in (0.61 m). Depth, 69 ft (21.0 m). MP, 0.60 ft (0.183 m) above lsd. Altitude of land surface, 5,044 ft (1,537 m). Records available: 1940-79.

Highest water level, 30.29 ft (9.232 m) below lsd, Apr. 12, 1950; lowest water level, 45.70 ft (13.929 m) below lsd, Mar. 2, 1979.

Mar. 2, 1979 45.70 ft

400129N104483800 SB 1-66-30ADA. G. J. Mancini. Dug irrigation water-table well in alluvium. Diameter, 8 ft (2.4 m). Depth, 31 ft (9.4 m). MP, 1.15 ft (0.351 m) above lsd. Altitude of land surface, 4,953 ft (1,510 m). Records available: 1929-75, 1978-79.

Highest water level, 10.29 ft (3.136 m) below lsd, Oct. 12, 1933; lowest water level, 20.83 ft (6.349 m) below lsd, Mar. 1, 1977.

Feb. 28, 1979 20.65 ft

401727N104133000

SB 4-61-28BBB. K. Mori. Drilled irrigation water-table well in alluvium. Diameter, 18 in (0.46 m). Depth, 100 ft (30.5 m). MP, 0.80 ft (0.244 m) above lsd. Altitude of land surface, 4,482 ft (1,366 m). Records available: 1947-79.

Highest water level, 21.60 ft (6.584 m) below lsd, Oct. 9, 1947; lowest water level, 40.60 ft (12.375 m) below lsd, Mar. 1, 1976.

Mar. 12, 1979   32.72 ft

401912N104313700

SB 4-64-10DDD. T. E. Dwyer. Drilled irrigation water-table well in alluvium. Diameter, 24 in (0.61 m). Depth, 60 ft (18.3 m). MP, 0.60 ft (0.183 m) above lsd. Altitude of land surface, 4,635 ft (1,413 m). Records available: 1940-79.

Highest water level, 6.43 ft (1.960 m) below lsd, Nov. 9, 1949; lowest water level, 23.64 ft (7.205 m) below lsd, Nov. 13, 1956.

Mar. 9, 1979   12.90 ft

402753N104280901

SB 6-63-29BBB. H. L. Wells. Drilled irrigation water-table well in alluvium. Diameter, 4 ft (1.2 m). Depth, 37 ft (11.3 m). MP, 1.80 ft (0.549 m) above lsd. Altitude of land surface, 4,655 ft (1,419 m). Records available: 1932-79.

Highest water level, 7.19 ft (2.192 m) below lsd, Aug. 11, 1932; lowest water level, 22.85 ft (6.965 m) below lsd, Nov. 12, 1956.

Mar. 12, 1979   13.15 ft

402930N104414301

SB 6-65-17BBC. H. W. Farr. Drilled irrigation water-table well in alluvium. Diameter, 18 in (0.46 m). Depth, 65 ft (19.8 m). MP, 0.80 ft (0.244 m) above lsd. Altitude of land surface, 4,761.9 ft (1,451.43 m). Records available: 1932-75.

Highest water level, 21.22 ft (6.468 m) below lsd, Aug. 1, 1932; lowest water level, 41.36 ft (12.607 m) below lsd, Nov. 12, 1956.

1979   No measurement.

403032N104510201

SB 6-67-12BBB. Fred Felte. Drilled irrigation water-table well in alluvium. Diameter, 24 in (0.61 m). Depth, 22 ft (6.7 m). MP, 0.50 ft (0.152 m) above lsd. Altitude of land surface, 4,859 ft (1,481 m). Records available: 1961-75.

Highest water level, 5.45 ft (1.661 m) below lsd, Mar. 21, 1962; lowest water level, 13.30 ft (4.054 m) below lsd, Nov. 12, 1956.

1979   No measurement.

403454N104403701

SB 7-65-16BBB. K. Akahoshi. Drilled irrigation watre-table well in alluvium. Diameter, 4 ft (1.2 m). Depth, 18 ft (5.5 m). MP, 2.70 ft (0.823 m) above lsd. Altitude of land surface, 4,875.1 ft (1,485.93 m). Records available: 1942-48, 1950-79.

Highest water level, 4.09 ft (1.247 m) below lsd, Oct. 28, 1959; lowest water level, 7.42 ft (2.262 m) below lsd, Apr. 29, 1946.

Feb. 28, 1979   5.45 ft

403914N104451801

SB 8-66-22AAA. Troy Jones. Dug irrigation water-table well in alluvium. Diameter, 12 ft (3.6 m). Depth, 31 ft (9.4 m). MP, 2.1 ft (0.64 m) above lsd. Altitude of land surface, 5,073.7 ft (1,546.46 m). Records available: 1929-79.

Highest water level, 16.20 ft (4.938 m) below lsd, Jan. 8, 1947; lowest water level, 22.58 ft (6.913 m) below lsd, Nov. 22, 1954.

Mar. 1, 1979   22.53 ft

YUMA COUNTY

401105N102061101

SB 3-42-31BDD. U.S. Geological Survey. Drilled observation water-table well in Ogallala Formation. Diameter, 1.25 in (0.032 m). Depth, 92 ft (28.0 m). MP, 0.5 ft (0.15 m) above lsd. Altitude of land surface, 3,615.8 ft (1,102.10 m). Records available: 1952-79.

Highest water level, 21.25 ft (6.477 m) below lsd, Aug. 14, 1952; lowest water level, 47.82 ft (14.575 m) below lsd, Jan. 9, 1979.

Jan. 9, 1979   47.82 ft

401413102415000

SW 3-46-12CCC. C. Pagel. Drilled stock water-table well in Ogallala Formation. Diameter, 4 in (0.09 m). Depth, 184 ft (56.1 m). MP, 0.1 ft (0.030 m) above lsd. Altitude of land surface, 4,068.1 ft (1,239.96 m). Records available: 1956-79.

Highest water level, 171.4 ft (52.24 m) below lsd, Nov. 21, 1966; lowest water level, 183.92 ft (56.058 m) below lsd, Jan. 15, 1977.

1979 No measurement

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October 1, 1978

FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI). This report contains both the inch-pound and SI unit equivalents in the station manuscript descriptions.

Multiply inch-pound units	By	To obtain SI units
	Length	
inches (in)	2.54×10^{1}	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^{0}	kilometers (km)
	Area	
acres	4.047×10^{3}	square meters (m^2)
	4.047×10^{-1}	square hectometers (hm^2)
	4.047×10^{-3}	square kilometers (km^2)
square miles (mi^2)	2.590×10^{0}	square kilometers (km^2)
	Volume	
gallons (gal)	3.785×10^{0}	liters (L)
	3.785×10^{0}	cubic decimeters (dm^3)
	3.785×10^{-3}	cubic meters (m^3)
million gallons	3.785×10^{3}	cubic meters (m^3)
	3.785×10^{-3}	cubic hectometers (hm^3)
cubic feet (ft^3)	2.832×10^{1}	cubic decimeters (dm^3)
	2.832×10^{-2}	cubic meters (m^3)
cfs-days	2.447×10^{3}	cubic meters (m^3)
	2.447×10^{-3}	cubic hectometers (hm^3)
acre-feet (acre-ft)	1.233×10^{3}	cubic meters (m^3)
	1.233×10^{-3}	cubic hectometers (hm^3)
	1.233×10^{-6}	cubic kilometers (km^3)
	Flow	
cubic feet per second (ft^3/s)	2.832×10^{1}	liters per second (L/s)
	2.832×10^{1}	cubic decimeters per second (dm^3/s)
	2.832×10^{-2}	cubic meters per second (m^3/s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm^3/s)
	6.309×10^{-5}	cubic meters per second (m^3/s)
million gallons per day	4.381×10^{1}	cubic decimeters per second (dm^3/s)
	4.381×10^{-2}	cubic meters per second (m^3/s)
	Mass	
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

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